DOCUMENT RESUME

ED 051 475 AC 010 373

AUTHOR	Griffith, William S., Ed.; Hayes, Ann P., Ed.
TITLE	Adult Basic Education: The State of the Art.
INSTITUTION	Chicago Univ., Ill. Dept. of Education.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Div. of Adult and Vocational Research.
PUB DATE	Mar 70
NOTE	255p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (GPO 820-473, $2.00)
EDRS PRICE	EDRS Price MF-$0.65 HC-$9.87
DESCRIPTORS	*Adult Basic Education, *Adult Education Programs, Adult Students, *Curriculum Development, *Educational Research, *Teacher Education, Testing Programs
IDENTIFIERS	Adult Education Act, Title III

ABSTRACT

The central purpose of this book is to review the present state of the art in adult basic education teacher training. Each of the chapters of the book was developed specifically for the Workshop to Increase and to Improve University Teacher Training Programs in Adult Basic Education, which was held at The University of Chicago in March 1969. The 24 chapters, which serve as a benchmark of research immediately relevant to adult basic education, have been arranged in eight major categories: teacher training, adult students, testing adults, curriculum development and materials, economic considerations, programs, culture or social stratification, and overviews of adult basic education: research and programs. The final chapter contains the reactions of the participants in the Workshop, and appraises the central problem areas and research concerns for improving future teacher training programs. (DB)

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ADULT BASIC EDUCATION:
THE STATE OF THE ART

1971
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March 1970

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ED051475

ADULT BASIC EDUCATION: THE STATE OF THE ART

Edited by WILLIAM S. GRIFFITH
ANN P. HAYES

March 1970

Department of Education
The University of Chicago

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington, D.C., 20402 - Price $2.00

Prepared pursuant to and funded under a grant from the U. S. Office of Education as authorized by Public Law: 89 - 750, Title III Section 309 (b) Adult Basic Education Act "Special Projects" of THE ADULT EDUCATION ACT OF 1966, AS AMENDED.

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Introduction

ABOUT THE CONTRIBUTING AUTHORS

This publication reflects the research and thoughts of leaders in the adult education and allied fields. Speaking from various positions in public service, education, and research, these authors bring a variety of perspectives to the examination of the state of the art in adult basic education.

Ray J. Ast, President of the Adult Education Association of the United States, is the Administrator, Adult Continuing Education Resource Center of Montclair State College and Project Director, New Jersey ABE Learning Centers.

Jack Botwinick, Professor of Psychology, Washington University, has written extensively in the field of Human Development. As one of the foremost researchers of the special problems in maturity and old age, his basic research endeavors provide a sound empirical basis for understanding of the adult learner.

Zahava D. Blum, formerly associated with the National Opinion Research Center, is now Project Co-Director, Center for the Study of Social Organization of Schools, Johns Hopkins University. Her work in the sociology of education has given her a broad conceptualization of the problems of educating adult illiterates.

William F. Brazziel, Professor of Higher Education at the University of Connecticut was a principal investigator of the classical Norfolk study of vocational training for the culturally disadvantaged. This investigation was one of the first attempts to examine the influence of academic training on job retention of welfare recipients enrolled in vocational training.

Don A. Brown, Director of the Reading Department, University of North Colorado, has administered studies in reading research for under-educated adults and is directing the 1970 International Reading Association's ABE workshop. He is Chairman of The Basic Education and Reading committee of that organization.

José A. Cárdenas, Superintendent, Edgewood Independent School District in San Antonio, has been the Director of the Southwest Educational Development Laboratory and his work among Mexican American migrant workers has produced a number of publications. He is a consultant on the special problems of Mexican Americans for regional and National boards.

Richard W. Cortright has held faculty appointments at four universities in the field of linguistics, reading and adult education. He is currently Assistant Director of Adult Education Service of the National Education Association and Director of its Adult Education Clearinghouse.

Arthur P. Crabtree, past president of the Adult Education Association and former chairman of the President's National Advisory Committee on Adult Basic Education, is currently a consultant in adult education with the New Jersey and Pennsylvania State Departments of Education.

Phyllis M. Cunningham, a doctoral student in adult education at the University of Chicago, is engaged in the study of the relationship of self-image to retention and achievement in adult basic education classes in Chicago.

Robert C. Droege, Psychologist with the Department of Labor and the Department of the Army, is currently working with the Manpower Administration. He has contributed to the literature of educational psychology in the area of testing adult illiterates. He is one of the developers of the General Aptitude Test Battery for testing undereducated adults.

Eric F. Gardner, Professor of Psychology at Syracuse University has co-authored a basic text in Educational Psychology and a number of standardized diagnostic tests. His work in the development of the Adult Basic Learning Examination (A.B.L.E.) has advanced our understanding of diagnostic and achievement testing of undereducated adults.

Francis Gregory, Consultant in Manpower and Adult Education, Warner and Warner International Associates, has extensive experience in the problems of the undereducated and underemployed adult. He formerly was the Special Assistant, Associate Manpower Administrator, Manpower Administration, U.S. Department of Labor.

William S. Griffith, Associate Professor of Education and Chairman of the Adult Education Special Field Committee of the University of Chicago, developed and directed the "Workshop to Increase and to Improve University Teacher Training in Adult Basic Education". He has been involved in regional and National projects related to ABE and is Chairman of the Commission of the Professors of Adult Education and past president of the Illinois Adult Education Association.

William Haddad, President of the United States Research and Development Corporation, has had a varied career working as a journalist, author, and in various positions of public service. He has been Associate Director of the Peace Corps and an Inspector General in the Office of Economic Opportunity.

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Howard M. McFann, Director of Research, Human Resources Research Office, Division #3, is a prolific investigator and author in the problems of diagnosing and studying educational programs in basic and vocational education. His rigorous empirical work for Project 100,000 with the U.S. Army has led to basic designs and curricula in working with the educationally disadvantaged adult.

Rolf Monge, Assistant Professor, Syracuse University, in currently involved in a five year research project studying adult learning as it relates to aging.

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Wayne Otto, Professor of Curriculum and Instruction, University of Wisconsin, served as the principal investigator, Wisconsin Research and Development Center for Cognitive Learning. Author of four books on reading and teaching adults, his contribution to strategies for increasing cognitive gain in reading are nationally recognized.

William H. Robinson views the problems of the undereducated adult from the public sector, where he has served as a member of the Illinois House of Representatives and subsequently as Director of the Cook County Department of Public Aid. He is currently the Director, Department of Registration and Education for the State of Illinois.

Kevin Ryan, Associate Professor of Education, University of Chicago, is presently an Alfred North Whitehead Fellow, Harvard University. Author of books on teaching and teacher-training, he is well known for his work on micro-teaching at Stanford University.

Henry Scharles is Associate Professor, Department of Management, School of Business Administration, Georgetown University. His research interest lies in the area of the economics of adult basic education programs.

R. Calvert Steuart, Consultant and Director of Business Development, Davis McConnell Ralston, a Division of Westinghouse Learning Corporation, has conducted research in the materials and methods of adult basic education.

INTRODUCTION

William S. Griffith

Adult basic education (ABE) has been the subject of national interest since 1964; interest which focused initially on the efforts to train adult illiterates under title II-B of the Economic Opportunity Act of 1964 (P.L. 88-452). This program, which became operational in 1965, was funded by the Office of Economic Opportunity and administered by the Adult Education Branch of the United States Office of Education. Title 3 of the 1966 amendments to the Elementary and Secondary Education Act (P.L. 89-750), known as the Adult Education Act of 1966 shifted the funding and administration of the program to the Office of Education. Since that time the Congress of the United States has continued and increased its annual appropriations for this purpose. There are indications that appropriations will continue to rise in the future. As the annual appropriations rise it is becoming increasingly clear that the Congress is now exerting a major influence on the development of adult education through its special involvement in adult basic education just as previous Congresses made lasting impacts on adult vocational education through the passage of the Smith-Hughes Act in 1917 and on adult education in rural areas through the enactment of the Smith-Lever law in 1914. Accordingly, a careful examination of the nature of adult basic education is of vital concern not only to those who are interested in improving such programs but to adult educators in general.

In providing funds for adult basic education in 1964 the Congress expressed the intention of assisting adults whose lack of skills in reading and writing were restricting their possibilities of securing employment commensurate with their potential ability.[1] The legislation focused on assisting adults to reduce their dependence on others and to enable them to meet their adult responsibilities more adequately. Subsequent legislation has not altered the purposes of the program appreciably.

At the time the Economic Opportunity Act was passed there were relatively few persons professionally prepared to plan and to administer literacy programs. Despite the fact that the first recorded training session for teachers of adult illiterates took place in 1911 in Kentucky,[2] the meager amounts of federal, state or local funds which were provided to support literacy programs were insufficient to encourage and facilitate the development of a core of career professional adult educators devoted to working in basic education. Accordingly when the federal government made hundreds of millions of dollars available during the depression years to train hundreds of thousands of adult illiterates to read and write[3, 4] it was necessary to employ as instructors individuals who had had no special preparation for work. During World War II the federal concern shifted from literacy education to vocational education and so even though the depression programs provided hundreds of thousands of Americans with their first exposure to adult literacy education, the cessation of federal funding for such programs effectively obliterated the positions which could have become lifetime careers for literacy teachers. And so it was that when funds were made available to develop adult basic education programs in 1965, one of the first problems to be faced was the lack of persons professionally qualified, at least in the sense of having had specific academic training, to teach illiterate adults.

The central purpose of this book is to review the present state of the art in adult basic education teacher training as a way of presenting in one document the central research base which undergirds the adult basic education teacher training programs in institutions of higher education. Each of the chapters in this book was developed specifically for the Workshop to Increase and to Improve University Teacher Training Programs in Adult Basic Education held at The University of Chicago in March, 1969.

But before turning to an overview of this book it seems necessary to consider the present level of adult illiteracy and to project estimates for the next three decades. Some may believe that there are few illiterate adults in the United States today and that there will only be an insignificant number in the future. It is to those who have such a view of the situation that the next several paragraphs are addressed.

THE INCIDENCE OF ILLITERACY

The data on illiteracy and trends for the future show little promise that the illiteracy problem will be solved either internationally or nationally in this century. Internationally, although the world's rate of illiteracy declined from 44.3 per cent to 39.3 per cent between 1950 and 1960, as a result of the tremendous population growth which occurred during the decade the absolute number of illiterates increased from the level of 700 million to 740 million.[5] Further, the drop-out rate in primary schools averaged 21 per cent annually.[6]

Nationally the magnitude and the trends of the illiteracy problem have been estimated for the U.S. Office of Education under a special contract calling for the designing of a plan for solving the illiteracy problem.[7] In this plan the term Educationally Disadvantaged Population (EDP) was applied to those persons 18 years of age or older who had not completed eight years of formal schooling. According to the 1960 census about 24 million persons, or 13.4 per cent of the total population fit this category. The EDP constituted 20.9 per cent of the total adult population aged 18 or over.

It is likely that the census figures understate the magnitude of the problem for two reasons. First, even though a person may have progressed through the eighth grade he may not have been making use of his education and therefore regressed through a period of years to a lower achievement level. Second, even though a person may have attended school for eight years it is not safe to assume that an eighth grade level of proficiency was attained. A study of able-bodied welfare recipients conducted by the Cook County Department of Public Aid in Chicago reported that on the basis of self-reports of grades completed about 6.6 per cent of the sample would be classified as functionally illiterate. However, on the basis of scores obtained through the administration of the Stanford Reading Test for grades 2-9, there were 50.7 per cent of the 680 member sample who were performing at less than a sixth grade level.[8]

Projections of the size of the EDP were calculated into the first decade of the 21st Century based upon the following assumptions: (1) there is and will continue to be a sizeable drop-out rate in the elementary and secondary education system; (2) the environment of the people in the EDP will not change appreciable with regard to motivation, encouragement, facilities and opportunities for continuing education; (3) there will be no literacy program of sufficient magnitude to have any appreciable effect on the estimates; (4) the percentage of the EDP in each succeeding age cohort of 18 years old is and will continue to be about 6.3 per cent; and (5) the mortality rate of the EDP does not and will not differ significantly from the mortality rate of the total population for comparable age groups.[9] Based on these assumptions it was calculated that the total EDP would drop from 23.9 million persons in 1960 to 19.6 millions in 1973, 16.7 millions in 1983, and 14.9 millions in 1998, the lowest number of educationally disadvantaged persons in the United States in this Century. And then, because of the accumulation of illiterates produced by an appreciably larger population, the absolute number of educationally disadvantaged persons is predicted to begin rising.

Even though not all of the assumptions appear equally valid, the basic trend and the approximate magnitude of the estimates do not seem unreasonable. It may seem logical to suppose that the EDP has a higher mortality rate than does the literate sector of the population because of differences in nutrition and health care for the two groups and therefore the EDP does not have the same life expectancy as do those who are literate. On the other hand, it is clear that there are many new school dropouts each year and the percentage of dropouts appears to have stabilized.

The major factor which accounts for the predicted decline in the EDP until about 1998 is the death rate of the population which was over 45 years of age and 70 percent illiterate in 1960.[10]

On the basis of these estimates it seems incontrovertible that the need for conducting literacy programs will persist well into the 21st Century. Accordingly, the development of improved methods of teaching illiterates and of training the teachers of illiterates seems sound and in fact essential if the number of adult illiterates is to be lowered significantly in this century by other than natural causes. Further, even if it should be possible to nearly eradicate illiteracy in the United States, the rapidly increasing numbers of illiterates throughout the world would present a challenge which this nation could not afford to overlook.

Because of the evident need for enlarging and for increasing the effectiveness of literacy programs in the United States in the decades ahead a national conference was held to examine the state of the research base for teacher training programs in adult basic education. The chapters of this volume are the invited papers which were commissioned for and discussed at the Workshop.

THE PROBLEM OF DEFINITION

Despite all of the money and time which

have been spent on literacy programs it may be somewhat discouraging to have to admit that there is no universally acceptable definition of key concepts in the field such as illiterate, functionally illiterate, and basic education. Some authors believe that in the United States today a basic education is equivalent to 12 years of schooling. Federal legislation has included the eighth grade level in basic education although a number of senators and congressmen would like to have this definition changed to include high school completion. Definitions of functional literacy vary also as would seem reasonable as higher levels of education are required to enable an individual to function effectively. Accordingly care should be taken in the interpretation of literature dealing with adult basic education lest incorrect definitions be assigned to terms which may be used idiosyncratically by various authors.

UNIVARIATE SOLUTIONS FOR MULTIVARIATE PROBLEMS

One criticism stands out above all others regarding the literature on adult basic education: univariate solutions are being sought for multi-variate problems. Fruitless efforts seem to be attempted afresh each year seeking to answer such questions as: What is the best method of training adult basic education teachers? What is the best curriculum for teaching illiterate adults? What kind of person makes the best teacher for adult illiterates? What is the best way of teaching illiterate adults? What is the best way to test adults? and many others. These questions have in common an erroneous assumption, and that assumption is that the concepts being dealt with are simple rather than complex.

Two approaches exist for conducting rigorous research in adult education. The first, and this is best exemplified in the chapters by Botwinick, Monge and Gardner, and McFann is the restriction of the problem to be dealt with to modest proportions so that by careful control the investigator is able to speak with assurance regarding the relationships among a restricted number of discrete variables. In the second approach great care is taken to define complex variables by identifying their parts. Jahns and Blum advocate this approach and various other chapter authors acknowledge its validity even though in retrospect they may have to admit that their treatment of key variables has been overly simplified.

Perhaps the greatest advances in our knowledge of adult basic education will come about only after those who do research in the field stop seeking the best answer to problems and instead approach their investigations with a basic orientation which asks: What kind of teachers (race, sex, I.Q., personality, motivation) are most effective (as measured by what instrument) in teaching what kinds of students (age, sex, I.Q., motivation) what kind of content (job-related, hobby, family, health, recreation) at what level of cognitive complexity using what methods, and what teaching style in what setting? It seems apparent that only as detailed descriptions are provided for each of the interacting variables will the research findings begin to be cumulative. In a sense this volume with its chapters of varying quality is a detailed statement of particulars documenting the need for strengthening and expanding the research base if adult basic education teacher training is to progress beyond its present primitive state.

THE ORGANIZATION OF THE CHAPTERS

The twenty four chapters which have been brought together to serve as a benchmark of research immediately relevant to adult basic education have been arranged in eight major categories: Teacher training, adult students, testing adults, curriculum development and materials, economic considerations, programs, culture or social stratification, and overviews of adult basic education: research and programs. The concluding chapter presents the reactions of the Workshop participants to each paper and then appraises the central problem areas and research concerns for the improvement of teacher training programs for adult basic education teachers in the future.

TEACHER TRAINING

The first 5 chapters deal with teacher training programs in adult basic education. Neff identifies and documents the existence of three discrete and largely uncoordinated university groups engaged in training professional workers in adult basic education. The tabular presentation of the universities engaged in long and short term training programs shows that the contracts which the Office of Education has awarded to support teacher training workshops has not been directed toward the strengthening of an existing capacity, but rather to the enlargement of the number of institutions involved in such activity. Perhaps the most perplexing aspect of Neff's presentation is the documentation of the apparent inadequacy of the information state directors of adult education have of training opportunities within their own states for persons engaged in administering or teaching in adult basic education.

Johnson, Cortright and Laubach report on their effort to develop a relatively simple and economical system of data collection and analysis suitable for the routine, moderately budgeted, short-term teacher training program. They observe that although it was possible to detect shifts of teacher opinion regarding adult illiterates, methods of teaching and motivating adult basic education students after a 9-hour training program, the behavior of the teachers back on the job quickly regressed to the prevailing norms of the program.

Ast cautiously describes the potential value of the learning center approach while warning against the development of over enthusiasm for the latest approach to adult basic education. Basing his discussion on a logical analysis of the characteristics of adult learning centers as educational systems, he argues for the explicit designation of responsibilities for all members of the center staff. Acknowledging the paucity of research findings on learning center effectiveness, he advocates the use of self-evaluations by each staff member who subsequently must discuss his self-assessment with the center director.

Ryan argues persuasively for the need to identify the professional skills and strategies a teacher should have before attempting to design programs to develop specific skills. Through the use of the video tape recorder he provides teachers in training with five kinds of feedback on the adequacy of their performance with regard to specific skills. Although Ryan asserts that the scientific study of teaching is new, the reader will discover that Ryan bases his training program on an unsupported assumption that the specific teaching skills which he seeks to develop produce significant differences in the learning of students.

Nichols describes a four-phase autoinstructional program which has not yet progressed beyond the first phase for preparing teachers of English as a second language. After the completion of the first phase, which is the operational description of the behavior of the master skilled teacher through the use of video tape, he expects to be able to make a theoretical analysis of the data, to prepare materials for the instruction of teachers in those behaviors, and then to test for the effectiveness of the system in enhancing ABE student learning.

ADULT STUDENTS

To a greater extent than most of the other chapters, the three chapters in this section exemplify excellence in reporting and rigor in analysis.

Monge and Gardner describe their efforts to contribute to increasing the effectiveness of retraining and adult vocational rehabilitation by increasing the knowledge base regarding adults' intellectual resources and learning ability. This progress report on the Syracuse University Adult Development Study presents the three hypotheses which are being tested: (1) a measurable portion of the decrement in learning performance usually found with increasing age may be attributed to greater susceptibility of older adults to psychological stress; (2) the degree to which an adult can learn controversial material is influenced by his attitudes to a greater degree than is true for the younger adult; and (3) older adults do not know how to learn as well as younger people. The results of the testing of these hypotheses will be of considerable interest to adult educators concerned with providing basic education to older adults.

Botwinick examines the accelerating rate of increase in the production of research dealing with adult development and predicts an increasingly chaotic situation unless textbook writers apply themselves to summarizing and integrating the flood of literature. One might hope that Schaie's approach to methodology in developmental research described in this chapter will be applied to the testing of Monge and Gardner's third hypothesis. Botwinick presents a summary of the research on the effects of aging on adult intelligence, speed of response, perception, and personality. He also emphasizes the importance of the conceptual difference between the process of learning and the performance which serves as an indicator that the process has occurred.

McFann, in discussing the adaptation of training strategies to match individual differences, draws upon his experience with the training of low ability (Wechsler adult intelligence scale scores of 70-91) men in army training centers. He reiterates the warning which has been made by many others concerned with measuring student progress, that rigorous assessment is impossible unless the terminal learning objectives are clearly stated in behavioral terms.

TESTING ADULTS

One of the major difficulties involved in the operation of adult basic education programs is that the measuring instruments for assessing student progress are generally less than ideal. The authors of the two chapters in this section appear to be optimistic about the likelihood of significant progress in this area over the next few years.

Droege presents a detailed description of the difficulties encountered when one attempts to administer tests to disadvantaged adults. He then offers a set of strategies for overcoming these difficulties. In this chapter eight criteria are suggested for an achievement test which fully meets the requirements for use with hard core unemployed and disadvantaged adults. Then Droege describes the development of the Basic Occupational Literacy Test (BOLT) which he believes will satisy all eight criteria. Of particular interest to those who are more interested in preparing adult illiterates for employment than for qualification for 8th grade certificates or high school diplomas is the work sample assessment technique, a technique which appears to hold great promise for those who are disturbed by the credentials barrier to employment.

Karlsen reviews the research on the test-taking behavior of adults and concludes that the testing experience is qualitatively different for adults from that of children. In this chapter the author justifies the use of grade norms for adult tests, a concept that is unpalatable to those who may be overly sensitive to the risk of slighting the egos of illiterate adults. Karlsen explains the procedures which he followed in developing the adult basic learning examination (ABLE) test and the procedures used in the development of norms.

CURRICULUM DEVELOPMENT AND MATERIALS

Three papers presented at the workshop dealt with curriculum development and materials. Brown studied the reading interests of adult basic education students as an essential step in the development of curricular materials that would be more likely to maintain the level of interest and attention of adult students than typical commercial materials. Although he acknowledges that the mastery of even the most mundane of materials has managed to hold many learners for a long time, he believes that adults will learn better if they are reading about topics of concern to them. No data are presented to establish that the effectiveness of adult learning is significantly improved by the use of material which is inherently of greater interest to adult students but Brown does demonstrate that the reading of literate and illiterate adults are more nearly alike than either group's interest is like that of suburban or inner-city children.

Otto reviews what has been established by research on reading and what must be investigated if the effectiveness of adult literacy programs is to be increased. He comments candidly that despite the inadequacy of the research base, practitioners have been amazingly successful in teaching adults to read. Otto emphasizes the point that reading skill sequences have been developed for elementary school children and that research with adult illiterates should build upon the base which consists of skills dealing with word recognition, comprehension, study skills, self-directed reading, interpretive reading, and creative reading. The development of an adequate evaluation program for teaching reading to adults can best be constructed from a skill sequence outline such as that provided in this chapter according to Otto.

Steuart studied 70 students in two classes for 48 and 54 hours of instruction in an effort to determine the relative effectiveness of analytic and synthetic approaches to reading instruction. His conclusions echo those of other investigators who have attempted gross comparisons of methods and obtained nonsignificant results. Although no measures of student motivation were attempted, Steuart comments that his observations lead him to believe that this variable is potentially a powerful predictor of student performance.

ECONOMIC CONSIDERATIONS

It seems clear that the Congress had a concern for economic benefits to the nation which were assumed to be the inevitable product of ABE programs. In the following two chapters the economics of illiteracy and the effectiveness of economic rewards as a motivator of adult learning are treated.

Scharles presents an elementary overview of illiteracy economics in which he clearly distinguishes between the consumption and investment aspects of education. It is unfortunate that at this point in time when so few hard facts are in the literature regarding the financing of adult education the data base of this chapter was rather restricted.

Gregory methodically and meticulously reviews the literature on the use of preparation for employment as a motivator for participation in ABE and concludes that despite the accumulated amorphous mass of evidence, the conclusion that this variable is the key explanatory variable is still intuitive. He notes that something more than the charm of the schoolhouse and purity of knowledge is needed to activate the undereducated adult to enter and stay with a program of basic education. From the standpoint of a person well acquainted with the literature on education and employment, Gregory lists seven high priority research needs for ABE and manpower training programs which are deserving of careful attention.

PROGRAMS

Five chapters are grouped under the heading of programs because they emphasize the particular practical aspects of action programs.

Brazziel reviews the definition of counseling and the history of the counseling problem in ABE. He identifies specific procedures which have been used and discusses their implications. Of particular significance to universities now engaged in or preparing to begin training programs in adult education is Brazziel's assertion that the supply of training opportunities for counselors is entirely inadequate for ABE needs.

Cardenas addresses himself to the problems of planning and evaluating ABE programs for Mexican-Americans. His presentation is firmly grounded in practical experience, but his conclusions lack the quantitative underpinning which will be required to convince a rational skeptic. Cardenas advocates the use of the CIPP (context, input, process, and product) evaluation system for ABE programs even though no data are presented to show how this system has been used to date. Accordingly, the expressed commitment to the system is based more on expectations than upon demonstrated effectiveness.

Mangano reports on the evaluation of a Head Start parents' adult basic education program conducted with Spanish speaking parents in New York City. He criticizes curriculum developers in adult basic education for using an oversimplified conceptualization of ABE which leads away from rather than toward specific curricular activities designed for specific populations. The data collection procedure used to assess the effectiveness of the project utilized questionnaries in both English and Spanish to measure personal and social adjustment changes. Practical suggestions for program improvement based upon observations and common sense are presented.

Robinson presents a case study of adult basic education needs in Cook County, Illinois, in which he makes a strong case for inadequate education as a major factor predisposing individuals to a poverty existence. He concludes that although undereducation is not the sole cause of poverty and that education alone cannot be the sole cure for poverty, educational programs have had demonstrably favorable effects for welfare recipients. He suggests that administrators planning ABE programs take nine factors into consideration if they wish to increase their chances for success.

Lehmann relates the experience of the public schools of Chicago in attempting to meet the educational needs of Cook County Department of Public Aid welfare clients and does not gloss over the considerable difficulties encountered when one attempts to coordinate two huge bureaucracies. He identifies four major problem areas in the program and describes the use of a joint advisory committee in improving coordination. In complete candor he acknowledges that the ABE program continues to suffer from a high dropout rate and inadequate in-service educational programs for the staff.

CULTURE OR SOCIAL STRATIFICATION

As long as the poverty programs have been in operation a debate has raged over the question: is there a culture of poverty? The authors of the two papers in this section were invited to contribute papers to the Workshop because they were known to have taken opposing positions on the question.

Haddad insists that subcultures of poverty exist and that they can be defined quantitatively and qualitatively although he does not succeed in doing so. While admitting that there is presently no commonly accepted operational definition of poverty or of a culture of poverty, he asserts that there is a recognizable disenchanted minority who do not see the prevailing culture as relevant to themselves and therefore belong to a culture of their own.

Blum criticizes studies of the poor or rather the authors of studies of the poor because they seem either to be inclined to want to seek out distinct traits as a way of defining the poor or they appear to be motivated by a desire to do something helpful for the poor. She advocates the use of the concept of social stratification which sees the poor as differing in degree but not in kind from persons of higher socio-ecomic status. This concept assumes that the life style of the poor will not interfere with their adaptation to economic opportunity. Blum presents a thorough review of the literature dealing with images of the poor and concludes that while the poor differ quantitatively from the other socio-economic strata, they do not differ basically in a qualitative sense. She concludes her chapter with suggestions for research of a multivariate nature, much of it aimed at illuminating the relationship between socioeconomic status and indicators of success in the formal academic system.

OVERVIEWS OF ADULT BASIC EDUCATION: RESEARCH AND PROGRAMS

The final pair of papers presented at the Workshop are at a somewhat higher level of generality than the earlier papers. Jahns presents an overview of adult basic education research which focuses primarily on doctoral dissertation investigations conducted at Florida State University. He discusses descriptive studies, outcome studies, and process studies in turn and then calls for additional research which will simultaneously consider the following variables: teacher, student, subject matter, methodology, classroom environment and social milieu. His key criticism of the ABE research to date is that it fails to explore the students' behavior in the world outside the classroom.

From his vantage point as the first Chairman of the President's Advisory Committee on Adult Basic Education, Crabtree presents his overview of the weaknesses and strengths of the ABE program nationally. He faults the program for lacking a commonly accepted purpose in origin and implementation; for unduly emphasizing occupational objectives and underemphasizing increasing competence as a citizen, parent, and homemaker; for a lack of administrative coordination at the federal level; and for its encroaching shadow of nonprofessionalism. On the other hand he regards the program as having three important positive aspects: it has served over one million adults; it is contributing to the development of the adult education field; and it is making a positive social contribution for the 34 million Americans who are living in poverty. On the balance it is clear that Crabtree favors the continuation of the ABE program but that he has very strong feelings about the need for certain specific improvements.

THEORY AND PRACTICE

In the final chapter of this volume the responses of the Workshop participants to the 24 papers are presented in summary form. In addition, the observations of the Workshop director and of graduate students in adult education who assisted with the administration of the Workshop are provided. These remarks are essentially reactions to the ideas presented by the authors of the chapter but in a number of cases in which it appeared that certain controversial matters were being avoided, the editors have exercised the option of exposing these thorny issues. Accordingly both theoretical and practical issues are raised so that the reader may mull them over as he reflects on the state of the art in adult basic education teacher training.

NOTES

1. National Advisory Committee on Adult Basic Education, Department of Health, Education, Welfare, *Adult Basic Education — Meeting the Challenge of the 1970's*. First Annual Report, August, 1968, p. 17.

2. Cora Wilson Stuart, *Moonlight Schools for the Emancipation of Adult Illiterates* (New York: E. P. Dutton and Company, 1922), p. 8.

3. Emily Miller Danton, "The Federal Emergency Adult Education Program," *Handbook of Adult Education in the United States, 1936,* ed. Dorothy Rowden (New York: American Association for Adult Education, 1936), pp. 32, 44.

4. Howard W. Oxley, "Illiteracy in the C.C.C. Camps," *School and Society,* 33:1095 (1935), pp. 868-869.

5. United Nations Educational, Scientific, and Cultural Organization, "Meeting of Experts on Research in Literacy," (Paris: Unesco, December, 1968), p. 1.

6. *Ibid.*

7. Management Technology Incorporated, *Comprehensive Plan for Solution of the Functionally Illiterate Problem* (Washington: Management Technology, Inc., March, 1968).

8. *The Blackboard Curtain,* A Study to Determine the Literacy Level of Able-Bodied Persons Receiving Public Assistance ([Chicago]: Science Research Associates, Inc., 1963), p. 41.

9. Management Technology, Incorporated, p. 18.

10. *Ibid.*, p. 22.

Teacher Training

THE STATE OF THE ART IN ADULT BASIC EDUCATION TEACHER TRAINING

Monroe Neff

Adult education has been described by the Commission of the Professors of Adult Education as an emerging field of university study. Each of the major subdivisions of the field is in the process of emerging and so it is that the state of the art in adult basic education professional training is just beginning to develop a definitive form and a common curriculum. Efforts to train teachers and administrators for adult basic education programs have been conducted by at least three discrete groups, each functioning largely in isolation from the others.

The purpose of this paper is to review the origin and development of the three groups and then to examine the extent to which the work of the groups has been made known to the state level adult basic education leaders who have the responsibility of encouraging and facilitating preservice and inservice education for personnel in local programs.

It would be misleading to imply that no one has attempted to deal with these groups. Each focus has been dealt with individually in some way. To date, however, it appears that no one has treated the three groups simultaneously, seeking evidence of a perception of common goals, and then assessed the extent to which state officials working in adult basic education have knowledge of the training opportunities.

Investigators who have sought to describe the development of professional preparation programs for adult educators have produced disparate results largely because of the different views they have of the field. The three major viewpoints may be characterized as follows: (1) adult education is a field of graduate study and the individuals who go through the educational program may be employed to work in any aspect of the field including basic education; (2) adult basic education is a derivative of linguistics or of English and personnel who are being prepared to work in adult basic education may get their training most appropriately through linguistics or English departments of universities; and (3) adult basic education is a field of practice for which persons may be prepared by engaging in short-term workshops which will add skills in teaching adults to those who already possess professional skills in elementary education.

ADULT EDUCATION AS A GRADUATE FIELD

Svenson defined adult education leaders as professional persons who devote their full time to adult education activities.[1] He sought to identify the kinds and extent of professional training opportunities provided by college and university schools of education for individuals planning to engage in adult education teaching, research, administration, and counseling.

Svenson traced the beginning of formal teacher training efforts to 1923 when the Detroit Teachers College offered a course entitled, "Methods in Teaching Foreign Adults" which carried one and one-half semester hours of credit.[2] Less formal special training efforts consisted of in-service type workshops, conferences and seminars usually held in the summer. The staff for these informal training sessions were usually adult education practitioners assisted by selected university faculty members. The curriculum was frequently not planned ahead of time. Instead, it was developed from the experience of the participants.[3]

In the autumn of 1952 Svenson sent questionnaires to the 326 presidents of colleges and universities which (1) had been accredited by their regional accrediting organization, (2) offered graduate work, and (3) had more than two graduate faculty members in education. On the basis of an 87 percent return, he reported that 56 institutions were providing some course work in adult education.[4] He divided these institutions into four categories based upon the extent of their offerings as follows: Category 1. Institutions which offer one or two courses in adult education;[5] Category 2. Institutions which have a limited but often expanding training program in adult education;[6] Category 3. Institutions which allow research for the doctors thesis to be conducted in adult education;[7] and Category 4. Institutions which offer a curriculum leading to the doctorate in adult education.[8]

Svenson reported that between 1941 and 1952 there were 96 different institutions offering course work in adult education at one or more of their summer sessions.[9]

On the basis of his examination of the questionnaries filled out by those who were working in the adult education training programs, he concluded: "Most professors of adult education know little about adult education training programs conducted in other institutions."[10]

In a report published in 1948 Hallenbeck reported that he had examined the graduate curricula in adult education. The basis of his identification of institutions is not stated in the article. He noted four courses which were commonly given although the specific titles were not identical: (1) general introduction to the field of adult education, (2) community and community organization, (3) psychology of adults, and (4) materials and methods.[11] The programs he examined apparently were not associated with linguistics departments and exhibited no special emphasis on literacy education. One might assume he had not looked at linguistics departments because of his definition of adult education.

Houle has also examined the evolution of graduate training programs for adult educators. He prepares an annual listing of persons who have received a doctorate in the preceding year which is published in *Adult Leadership,* the monthly journal of the Adult Education Association of the United States.

He notes that the preparation of a comprehensive plan for a complete system for the preparation of adult educators involves five distinct steps: (1) the operational definition of the traits of the successful adult education practitioner; (2) the recruitment and selection of candidates for training; (3) the training of the candidates in ways that will assure that they gain competence in the duties they are expected to perform; (4) the orientation of the trained individual to his first professional position; and (5) the continuation of training to maintain his competence, to provide him with new skills, and to equip him to meet new responsibilities.[12]

Houle attributes the emergence of graduate programs in adult education to the development of a widespread interest in the provision of special programs to train teachers of immigrants.[13] University departments of education began offering short-term training programs for teachers of adults following the passage of the Smith-Hughes Act in 1917. The preparation of teachers of vocational adult education emerged as a specialty in that those who were being prepared to teach or administer evening classes in home economics, agriculture, or industrial subjects were led to think of themselves primarily as professionals in vocational, rather than adult, education. Because of the provision of federal funds and the development of secure full-time positions in the field, the vocational adult educators formed a national special interest group. Their common funding source evidently served to stimulate, sustain and foster cooperation among the professionals.

Columbia University offered the first course with the words "adult education" in its title in 1922[14] and other universities followed the lead. A survey of unstated dimensions reported in 1964 showed that forty-four colleges and universities had had one or more courses in adult education and that thirty-two others had recently offered such courses.[15] Houle noted that World War II was accompanied by a decline in the number of courses offered so that in the summer of 1945 only twenty-six courses were identified. However, the proliferation of courses resumed with fifty-two courses in 1946 and seventy in 1947.[16] These single courses tended to blossom into full blown graduate programs so that by 1962 there were fifteen universities in the United States which had active programs leading to masters and doctors degrees in adult education.[17]

In 1968 Ingham and Qazilbash reported on a study of graduate adult education programs in the United States and Canada. Their data were taken from questionnaires which had been completed by members of the Commission of the Professors of Adult Education, a formally organized group of university teachers and researchers who are engaged in teaching at the graduate level in adult education. For the most part the Commission has not expressed a particularly strong interest in literacy education during its fourteen year existence. This selection procedure depended upon the membership policies of the Commission for its principle of selection. In examining the course descriptions they received from twenty-six institutions they found certain courses which appeared to be taught at all of the institutions: (1) a survey of the field of adult education, (2) program development in adult education, (3) adult learning, and (4) general administration. A number of other courses were identified which did not fit into the four previously listed categories: (1) education for community leadership, (2) adult literacy and fundamental education, (3) the adult citizen, (4) parent education, (5) seminar in group and interpersonal relations, (6) the democratic idea and adult education, (7) problems of work and leisure, and (8) community development.[18]

There were fifty-five full-time and eighty-two part-time faculty members in the twenty-six institutions.[19]

An individual seeking opportunities to pursue graduate study in adult education might not be able to tell that an opportunity existed if he regarded the titles of some of the programs literally: leadership in community services, adult and employee development, extension educational administration and supervision.[20] Yet all of these programs had in common a perception of adult education as a broad general field of graduate study. This common perception differs markedly from that of those who considered the field as an applied segment of linguistics or reading.

ADULT EDUCATION AS SPECIALIZED LITERACY TRAINING

Cortright, the first director of the Literacy Center at Baylor University, has dealt with the development of specialized literacy training programs. His approach to the problem of definition emphasized those institutional programs which were clearly identified as literacy studies. He reported that in 1957 Baylor had developed the first undergraduate curriculum in literacy studies to train foreign and American literacy specialists.[21] The program was developed to meet the "great need for trained specialists to direct literacy programs, prepare basic literacy materials, and write series of continuation texts for the progressing new readers."[22]

At Baylor the literacy curriculum had five major emphases: (1) basic literacy studies, (2) introduction to linguistics, (3) teaching English as a foreign language, (4) writing for new literates, and (5) senior literacy studies.[23] In 1963 the first graduate program specializing in literacy education was instituted at American University in its Department of Education.[24]

Syracuse University offered the first graduate degree curriculum in literacy journalism in 1952.[25] Cortright identified a total of seventeen educational institutions which provided course work to develop competence in literacy education.[26]

The institutions in this second group all had programs which took persons with no previous training in elementary education, adult education, linguistics, or reading and provided a full undergraduate or graduate degree program designed to produce graduates with highly specific skills in adult basic education. Both the programs to train generalists to work in adult education and those to train specialists to work specifically in adult basic education were developed under the assumption that a long term program is required to develop the essential skills of the adult education professional. The third approach to training proceeds on a different assumption.

ADULT EDUCATION TEACHING AS AN ADDITIONAL SKILL

The third kind of training program is based on the assumption that individuals who already possess skills in elementary education require only an intensive short term learning experience to enable them to adapt those skills to the instruction of adult illiterates.

Title II-B of the Economic Opportunity Act of 1964 allocated funds for teacher training programs at the state level but not for the training of teacher-trainers. Because adult basic education programs had offered few opportunities for career employment prior to 1964, teacher training institutions had not emphasized the development of training programs and consequently had few faculty members who were well qualified to engage in teacher training for adult basic education teachers. The Ford Foundation, in cooperation with the United States Office of Education, provided the financial support for three two-week workshops in 1965 at the Universities of Maryland, New Mexico, and Washington.

The National Association for Public School Adult Education was instrumental in planning and conducting the three workshops in 1965. An invitational planning meeting was called by the Association to serve three purposes prior to the convening of the three workshops: (1) to assess the changing picture of adult basic education; (2) to analyze the needs of the men and women given the responsibility for teacher training in adult basic education; and (3) to develop a basic design for three "trainer of trainers" workshops.[27] The National Association for Public School Adult Education developed a guide for teacher trainers to use in short-term educational programs based on the material collected for the planning session and the experience gained in the three workshops. This guide consisted of five chapters: (1) teacher training techniques in adult basic education, (2) characteristics of undereducated adults and how they affect teaching techniques, (3) curriculum in adult basic education classes, (4) materials, and (5) counseling and testing in adult basic education. These workshops were attended by 165 teachers and administrators.

In fiscal year 1966 a change in the law made it possible to place increased emphasis on national level teacher training activities. The Economic Opportunity Act of 1964, as amended under Title II-B, Section 218, provided for the allocation of up to 5 per cent of the total adult basic education appropriation for colleges and universities, state or local education agencies, or other appropriate public or private agencies organizations to provide training to persons engaged in or preparing to engage in the instruction of undereducated adults. With the cooperation of the National University Extension Association, nine regional teacher training institutes were conducted in August, 1966. A total of 982 persons participated, 18 fewer than had been sought under a policy of allocating 20 openings to each state. The intention of the planners was that each participant would return to his home state and in turn provide training for an additional 20 adult basic education teachers.

In 1967, nineteen universities, including the 9 which had been involved the previous year, conducted institutes for 1,197 participants, 702 teachers and 495 administrators.

In 1968 approximately 32 institutions offered federally funded workshops for 2,004 teachers, administrators and counselors in adult basic education.

Through a contract with the National University Extension Association an effort was made to expand the limited number of professionally trained teachers rapidly enough to staff the adult basic education programs being funded under the Economic Opportunity Act.[28] Representatives of the Office of Education were responsible for designating one university in each of the nine regions of the United States as identified by the Department of Health, Education, and Welfare to conduct a four-week institute to prepare adult basic education teachers to train other teachers.[29] The rationale for having the training be conducted by universities rather than by state departments of education or independent contractors was the belief that the university is the center for teacher training and the repository of accumulated professional expertise in the field. However, in awarding contracts for teacher training programs the Office of Education did not depend exclusively or primarily upon institutions which had been working in the field previously.

It is certainly understandable why the funds provided for short-term training in adult basic education did not go exclusively to those institutions with experience in the field. Apparently no person or group has accepted the responsibility for surveying the training opportunities across the United States and publicizing them to practitioners in adult basic education. A review of the literature did not disclose a comprehensive listing of training programs in adult basic education. Accordingly it was necessary to draw from a number of sources in the development of an initial master listing.

THE UNIVERSE OF TRAINING OPPORTUNITIES

Table I is a listing of all of the institutions of higher education in the United States which are known to have or to have had training programs appropriate for professional workers in adult basic education. The institutions are listed alphabetically within states and the state groupings are arranged alphabetically. The institutions in column 2 were identified by Svenson; in column 3 by Cortright; in column 4 by Houle; in column 5 by the Ford Foundation for the purpose of conducting teacher training in 1965; and in columns 6, 7 and 8 by the United States Office of Education for the purpose of conducting basic education short term basic education institutes in 1966, 1967, and 1968 respectively; and in column 9 those institutions identified as offering training programs in a survey of state directors of adult education in 1969.

In November, 1968, at their meeting in Seattle, the state directors of adult education were asked by the Chairman of the National Council of State Directors to cooperate in a national survey of the courses which were available for credit for adult basic education teachers. Through follow-up letters, telegrams, and telephone calls a 100% return was accomplished. It should be remembered that the data collected reflects what state directors of adult education reported about the availability of credit programs for teachers in adult basic education conducted by institutions of higher education in their states.

The survey identified 80 institutions of higher education with credit courses in adult education with a range in the number of courses per institution from 1 to 19.

TABLE 1. INSTITUTIONS OFFERING TRAINING FOR PROFESSIONAL TEACHERS AND ADMINISTRATORS IN ADULT BASIC EDUCATION LISTED BY STATES AS IDENTIFIED BY VARIOUS SOURCES

	IDENTIFYING SOURCE							
				U.S. Office of Education				
	Svenson	Cortright	Houle	1965	1966	1967	1968	Neff
1. Auburn University								x
2. Tuskegee Institute							x	
3. University of Alabama	x							
4. Arizona State University								x
5. California Western University		x						
6. Palomar College		x						
7. Sacramento State College	x							
8. San Francisco State College	x	x						
9. Stanford University	x		x					
10. University of California-Berkeley			x					x
11. University of California-Los Angeles	x		x		x	x	x	x
12. University of San Francisco	x							
13. University of Southern California	x							
14. University of Colorado					x	x	x	
15. University of Denver		x	x					
16. University of Connecticut					x	x	x	
17. Yale University	x							
18. University of Delaware								x
19. American University		x						x
20. District of Columbia Teachers College								x
21. Federal City College								x
22. George Washington University	x		x			x	x	x
23. Florida State University	x		x		x	x	x	x
24. Florida A & M University	x							

TABLE I (Continued)

INSTITUTIONS	Svenson	Cortright	Houle	1965	1966	1967	1968	Neff
25. Carver School of Mission & Social Work		x						
26. University of Georgia								x
27. West Georgia College								x
28. University of Hawaii						x	x	
29. Illinois State University								x
30. Northern Illinois University					x			x
31. Northwestern University			x					
32. Southern Illinois University								x
33. University of Chicago	x		x				x	x
34. University of Illinois			x					x
35. Ball State University							x	
36. Indiana Central College		x						
37. Indiana University	x	x	x					x
38. Iowa State University			x					x
39. University of Iowa	x		x			x	x	x
40. Kansas State Teachers College–Emporia							x	x
41. Kansas State University								x
42. University of Kansas	x		x					x
43. University of Maine						x	x	x
44. University of Maryland	x			x				x
45. Boston University			x					x
46. Harvard University	x		x					
47. Tufts College	x							
48. Michigan State University	x		x					x
49. University of Michigan			x					x
50. Wayne State University	x				x	x	x	x
51. University of Minnesota							x	x

TABLE I (Continued)

INSTITUTIONS	Svenson	Cortright	Houle	1965	1966	1967	1968	Neff
52. Mississippi State University								x
53. Rust College							x	
54. Southwestern Baptist Theological Seminary		x						
55. University of Missouri–Columbia	x		x					x
56. University of Missouri–Kansas City						x	x	x
57. University of Missouri–St. Louis						x		
58. Municipal University of Omaha	x							
59. University of Nebraska–Lincoln			x				x	x
60. University of Nebraska–Omaha								x
61. Montclair State College						x	x	
62. Rutgers								x
63. University of New Hampshire								x
64. Eastern New Mexico University								x
65. New Mexico Western College	x							
66. University of New Mexico				x				x
67. City College of the City University of New York								x
68. Cornell University	x		x					x
69. Hunter College	x							
70. New York University			x					
71. State Univ. of New York–Albany					x	x	x	
72. State Univ. of New York–Buffalo			x					x
73. Syracuse University	x		x					x
74. Teachers College, Columbia Univ.	x		x					x
75. Yeshiva	x		x					
76. North Carolina College–Durham	x							
77. North Carolina State University					x	x	x	x

TABLE I (Continued)

INSTITUTIONS	Svenson	Cortright	Houle	1965	1966	1967	1968	Neff
78. University of North Carolina–Chapel Hill								x
79. Winston Salem State College								x
80. North Dakota State University							x	x
81. University of North Dakota								x
82. Kent State University								x
83. Ohio State University	x		x					x
84. University of Akron								x
85. Western Reserve University	x							
86. Oklahoma State University								x
87. University of Oklahoma						x	x	x
88. Oregon College of Education							x	x
89. Oregon State College	x							
90. Oregon State University								x
91. Portland State College						x	x	x
92. University of Oregon								x
93. Marywood College							x	
94. Pennsylvania State University								x
95. Temple University								x
96. University of Pittsburgh			x					
97. Upland College		x						
98. University of Rhode Island								x
99. University of South Carolina						x	x	x
100. South Dakota State College							x	
101. George Peabody College for Teachers	x							
102. Memphis State University							x	x
103. University of Tennessee								x
104. Baylor University		x						

TABLE 1 (Continued)

INSTITUTIONS	Svenson	Cortright	Houle	1965	1966	1967	1968	Neff
105. Southern Methodist University		x						
106. Texas Christian University	x							
107. Texas Technological University			x					
108. University of Texas			x		x	x	x	x
109. Brigham Young University								x
110. University of Utah								x
111. Utah State University								x
112. Richmond Public Schools							x	
113. University of Virginia		x						
114. Central Washington State College								x
115. State College of Washington	x							
116. Seattle University								x
117. University of Washington				x				x
118. Washington State University								x
119. Western Washington State College								x
120. University of Wisconsin–Madison	x		x					
121. University of Wisconsin–Milwaukee			x					
122. University of Wyoming			x			x	x	x
123. University of Puerto Rico–Mayaguez								x
124. University of Puerto Rico–Rio Piedras								x

TABLE 2. NUMBER OF INSTITUTIONS OF HIGHER EDUCATION OFFERING DIFFERENT NUMBERS OF CREDIT COURSES IN ADULT EDUCATION

Number of Institutions	Number of Courses Offered
15	1
16	2
10	3
5	4
4	5
2	7
15	8 or more

Table 2 shows the wide range in the number of training opportunities at the 80 institutions. The university with the largest number of courses in adult education listed 19.

The following five institutions were reported to have the largest number of courses bearing an adult education designation: Florida State University, District of Columbia Teachers College, George Washington University, North Carolina State University at Raleigh, and Indiana University.

Academic preparation opportunities for adult educators are unevenly distributed in the United States. Four states (California, Illinois, New York and Washington) and the District of Columbia each have 5 institutions of higher learning offering adult education courses. At the other extreme, it was reported that eleven states had no institutions offering course work in adult education: Alaska, Arkansas, Hawaii, Idaho, Louisiana, Montana, Nevada, South Dakota, Vermont, Virginia, and West Virginia.

The state directors identified 58 per cent of the institutions on Svenson's list, 14 per cent of the institutions on Cortright's list, and 64 per cent of the institutions on Houle's list. There seemed to be some difference between the perception of the Office of Education and the state directors of adult education concerning training opportunities. Although the directors listed 67 per cent of the institutions which had conducted federally funded workshops in 1966 and 1967, in 1968 they named 48 per cent of the universities providing federally funded training. This discrepancy is worthy of careful consideration.

In the effort to accelerate the training of adult basic education teachers the Office of Education awarded contracts to institutions which had expressed an interest in conducting such work. A number of these federally funded workshops were carried on at institutions without a history of involvement in such activity. In 1966 33 per cent of the institutions receiving federal funds to conduct training programs in adult basic education had conferred one or more doctoral degrees in adult education. In 1967 it dropped again to 26 per cent. Clearly the federal funds were being used in these cases not for the purpose of strengthening existing graduate adult education programs but rather to provide the financial incentive for establishing adult basic education programs at institutions which previously had appeared unconcerned about the need.

It is too early to tell what lasting effect the federally provided incentives will have on the expansion of stable programs for the training of adult basic education teachers, administrators and other professional personnel. An examination of Table I does, however, seem to lead to the conclusion that maximum advantage is not now being taken of existing training programs.

Training programs for adult basic education teachers become training opportunities only as teachers or potential teachers become acquainted with such programs. Because of the relative newness of large scale adult basic education programs, the teachers employed to staff the programs have had little formal preparation in adult education and have only limited acquaintance with institutions prepared to supply such training. These neophyte adult basic education teachers look to their administrators for assistance in diagnosing strengths and weaknesses in the programs and in identifying colleges, universities and other organizations which may be conducting preservice and inservice programs in adult education. In turn the local administrators, whose academic preparation and experience frequently is in fields other than adult education, look to the state level leadership emanating from the staff of the chief state school officer.

What is of practical significance is not how many programs of professional preparation are offered by institutions of higher education, but instead how many of the present and prospective adult basic education teachers know about the programs so they can make an informed judgment concerning their own preparation for their tasks. And it is at this point that the state director of adult basic education plays a pivotal role. If he is well acquainted with the range of training opportunities available he can disseminate this information to local program administrators and teachers. This dissemination itself is a demonstration of his belief in the value of such training and serves to encourage participation. On the other hand, if he is ill-informed and therefore unable to promote participation in professional improvement programs this fact will be sensed by the local program people. A part of the problem is traceable to disagreement over both whether any formal training is required for adult basic education personnel and what the content of such training ought to be.

Confusion, debate and disagreement have characterized the discussions of the most appropriate curriculum for the training of adult education teachers. The temptation is to offer training in method skills, such as the use of the discussion method and audio-visual aids. This approach is usually welcomed by the trainees for through the development of such skills they develop a beginner's confidence. It may be, however, that for those who already have some experience, the purpose of the training should be to stimulate the teacher to engage in a continuing reexamination of his work, searching for useful information and striving to improve his performance.

Most of the teaching being done in adult basic education classes in the United States is being done by teachers who have had academic preparation of some sort, but rarely by those who have gone through an extended period of education designed specifically to prepare them to work in adult literacy. Frequently teachers of illiterate adults are drawn from among the elementary teachers in the area. The justification for this approach is based on the level of the content to be taught and not on a consideration of the similarities and differences between the two groups of learners. Should there be special training programs for teachers of adults? It does not seem unreasonable to assume that special standards would be appropriate for teachers of adults just as special standards have already been established for teachers who work in elementary, secondary and special education programs.[30]

Adult education has been regarded historically as more of a movement than a profession. The absence of universally acceptable professional standards — measures of proficiencey and accomplishment — makes it difficult for the public to recognize competency in adult educators. As a consequence, the field is not accorded the status and importance in the public mind that is accorded other professional groups.

In addition to the problem of a lack of agreement regarding standards in the field is the reluctance of the old line volunteers to accept the notion that something more than emotion, dedication, and experience is required before the appellation professional may be used legitimately. The continuing overly romantic approach of volunteers is consistent with the position that adult educators should be trained only by direct work experience with those already on the job. Nevertheless, training programs for adult educators manage to turn out a small number of graduates annually.

In his 1968 education message to the Congress President Johnson presented proposals for the strengthening of education through the provision of special federal funds for the development of the education professions. He warned that "It would profit us little to enact the most enlightened laws, to authorize great sums of money — unless we guarantee a continuing supply of trained, dedicated, enthusiastic men and women for the education professions.[31]

Dedication and enthusiasm abound among those who teach and administer adult basic education programs, but these two attributes are infrequently found to be accompanied by high levels of training. The lack of well-prepared professionals has made it possible for a wide variety of individuals from various institutions with various levels of competence to rise to prominence. At least one professor of adult education has lamented the elevation of pseudo-professionals:

> Unfortunately, many who loudly proclaim their expertise are not knowledgeable about the field of adult education in general nor the area of adult basic education in particular. To put our reliance on 'experts' from other fields, who may assume that because it works with kids, or prisoners, or soldiers, or what-have-you, is unsound unless we first thoroughly satisfy ourselves that the 'expert' has the understanding, know-

ledge and competence that we are looking for.[32]

The lack of commonly accepted criteria for identifying competence in adult basic education practitioners has been treated by the Xerox Corporation in its report on a study of adult basic education programs in ten states: "A continuing attack on the problem of teacher preparation is required including the setting of certification standards by state education departments. The Federal Government should undertake a program to professionalize the whole area of adult basic education."[33]

At the time the Xerox study was conducted there were 1,573 local adult basic education programs in the United States.[34] Ninety-three per cent of the 304 teachers interviewed in the study were college graduates, but few had pursued any appreciable amount of formal training in adult basic education.[35]

In examining the opportunities for preservice and in-service education for adult educators working in industry, Whitlock emphasized the idea that a novice does not become an effective professional solely through participation in any seminar, conference, institute or short course. Further, he decried the number of programs which are being promoted for the teaching of particular training techniques because the act of holding such training sessions may be interpreted by participants and observers as evidence that sufficient research has been done on the use of a particular technique to warrant such training.[36]

Even though the importance of special education preparation and certification for all kinds of professionals and paraprofessionals in the United States appears to be increasing, the wisdom of the trend is not universally accepted by those who have looked at the adult education field. In reviewing the preparation of adult education teachers, the Overstreets noted that those who have become teachers of adults have done so more as a result of selection process than a training process.[37] Further, they predicted that this situation would persist. Not everyone is in favor of abandoning the present practice of selecting teachers and moving toward highly formalized programs of academic pre-service education. There is practical wisdom in selecting persons to be full-time adult education teachers from the most successful part-timers. Because the research findings have not demonstrated the superiority of any discrete procedure for training effective adult education teachers, the possibility cannot be overlooked that selection may be at least as important as training in the staffing of an adult basic education program. It is possible that increased emphasis should be placed on the use of a probationary period for adult basic education teachers. Such an approach would be consistent with the assumption that the characteristics associated with successful teaching in adult basic education are more dependent upon character and personality than upon formal training.

Graduate programs in adult education typically have served those who already have practical experience in the field. In a sense, adult educators discover a need for formal training only after they have been engaged in some action phase of the field. Undergraduate programs providing preservice education have not developed primarily because career employment opportunities in the field have not existed in sufficient numbers to attract the attention of faculty members in the majority of teacher training institutions or of high school students making career choices.

IMPLICATIONS AND SUGGESTIONS

Teacher training in adult basic education is still an activity lacking a common institutional form. Persons seeking academic preparation for a career in adult basic education may choose from at least three approaches. It is unlikely that all three are of equal utility; yet it is not clear which approach is best suited for present and future needs. Accordingly, efforts to improve communications among the three groups providing training ought to be encouraged. When training proposals are reviewed, special attention should be given to the provisions which have been planned for drawing upon the best experience in all three groups. Finally, until such time that it can be established that one approach is superior to the others, adult basic education leaders in the United States Office of Education should devise means of assuring that all state and local administrators associated with adult basic education programs will be adequately informed of the existence of training opportunities.

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6. *Ibid.,* pp. 165-166.

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MEASURING THE EDUCATIONAL RELEVANCE OF A SHORT-TERM TRAINING PROGRAM FOR TEACHERS

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Introduction: The Practical Problems of Evaluation.

One of the common requirements for the approval of proposals to develop special training programs for adult basic education teachers is a final evaluation to demonstrate the effectiveness of the course. This requirement is frequently pro forma and a minimal evaluation is accepted. Very often the need for an evaluation is fulfilled by appending to the final report a collection of enthusiastic testimonials written by the participants at the completion of the course.

The agencies which have been funding short-term teacher training programs have been so accommodating in accepting teacher testimonials as evidence of program effectiveness that the approach to evaluation has almost taken on an aura of credibility, as indicated by a training manual published in 1966.[1] The manual outlined the organization and content of a model five-day training program in substantial detail touching on teaching methods and materials, student assessment and counseling, and the psychology of the disadvantaged adult.

Throughout the manual, the authors stressed the tentative nature of their curiculum proposals and suggestions and were quick to acknowledge that little was known about training in this field. Yet they also emphasized that to obtain a valid assessment of program effectiveness, data must be systematically collected over a period of time — a procedure characterized as being both "exhaustive and exhausting." In discussing feasible alternative approaches, a section on evaluative procedures described five methods for polling teacher trainees for their reactions to the program. Unfortunately, all the methods discussed rely entirely upon the teachers' subjective judgments about what is relevant and useful. No method was offered for obtaining information which would permit a more impartial and impersonal evaluation of the course.

The omission of other means of date collection is understandable, of course, since the classic experimental designs for evaluation studies involve elaborate provisions for follow-up. Withall and Fagan's evaluation of a National Defense Education Act (NDEA) summer institute included content-analysis of tapes of classroom verbal interactions recorded before and after the teachers attended the institute.[2] This analysis was supplemented by extensive supplementary data obtained during observations of classroom behavior. Clearly, the commitment of resources necessary for such research is prohibitive for the ordinary short-term teacher-training program. The cost of a thorough evaluation study could easily exceed the cost of the training program itself by a considerable margin. A serious question is raised — is the high quality of the information gained by using a rigorous experimental design worth its high cost, especially when the training course will have been completed long before the results of the evaluation are known?

Purpose: The Development of an Evaluative Procedure

The study presented in this paper attempted to find a compromise approach to evaluation which will not pacify the purists in experimental design, but which will be more defensible than teacher testimonials. The aim was to develop a relatively simple and economical procedure of data collection and analysis suitable for the routine, moderately-budgeted teacher-training program.

Procedure

The population for this study was sixty-three suburban housewives who had been recruited to teach basic reading to adults. Prior to receiving their teaching assignments, the subjects were required to attend a nine-hour workshop, held over a three-day period by the staff of a Milwaukee-based company which specialized in training programs. The content and organization of the course was carefully planned in advance and a questionnaire was constructed which sampled course content. The questionnaire was constructed which sampled course content. The questionnaire consisted of 100 true-false items dealing with (1) teachers' attitudes toward adult illiterates, (2) teachers, opinions about adult basic education student characteristics, and (3) the most successful methods of teaching and motivating ABE students.

Each teacher trainee answered the survey on three separate occasions. All subjects completed it at the very beginning and at the end of the nine-hour workshop, designated as Time One (T1) and Time Two (T2). Prior to the workshop forty-three of the participants were randomly assigned to an experimental group, and the remaining twenty were assigned to a control group. Following the workshop, subjects in the experimental group were immediately assigned to small adult basic education classes and began to teach two hours a week under close professional supervision. After ten weeks of teaching experience the experimental group again completed the attitude and opinion survey, designated as Time Three (T3).

In contrast, subjects in the control group did no teaching whatever during this period and were assigned classes only when they had completed the survey at Time Three, ten weeks after the workshop.

Design

The technique of giving the survey at three different times to the experimental and control groups with teaching experience intervening between Time Two and Time Three for the experimental group has been described as a multiple-time-series design with a non-equivalent control group.[3] The reason for selecting this design was to permit the effect of teaching experience on attitudes to be twice demonstrated: once by comparing the experimental subjects who taught with the controls who did not; and by comparing the experimental subjects with themselves, before and after the teaching experience.

The analysis of data collected, using this design, enabled the researchers to ask two main questions: (1) Was the short nine-hour workshop effective in bringing about changes in teacher attitudes and opinions? And if so, (2) Did these changes persist, or were they merely transitory, with teachers eventually returning to their original views? The answers to these two questions were important because they bore on a definition of educational relevance in the teacher-training situation based on the premise that to be considered relevant, the content of a training course should provide teachers with expectations about their future students and the teaching experience itself which are later confirmed when the teacher actually begins to deal with students. That is to say, the changes in attitude and opinion which are induced by the course should show signs of permanence, be "locked in" by the subsequent teaching experience. The evaluative procedure in this study was based on this definition of educational relevance. Formulating a criterion for course evaluation in terms of consistency of change observed over time helped to set explicit performance standards for the course before it was held.

Data Analysis

The educational relevance evaluative criterion requires that changes in the teachers' responses to the survey be charted over time. This was accomplished by constructing for each item a pair of turnover tables. The method is illustrated in fugure 1. The turnover table on the left shows the response shifts of the forty-three teachers in the experimental group between the beginning and the end of the training workshop, that is, between Time One and Time Two. The number in the lower right-hand cell corresponds to the number of teachers who believed this particular item was false at the beginning and had not changed their minds at the end of the workshop. In the upper left-hand cell is the number of teachers who, on both occasions, believed this item to be true. The two remaining cells were used to record teachers who shifted in their responses over the two observations. In the lower left-hand cell are entered those who shifted from false to true, (Sft) and in the upper right-hand cell those who shifted from true to false (Stf).

On examining the marginal sums, it can be seen that at the beginning of the workshop, the teachers' views on this item were nearly evenly split, 22 to 21. But the workshop seemed to have some effect in increasing the number of false responses to 26 at Time Two.

An emergent consensus that the item was false is seen in the turnover table on the right which shows response shifts between Time Two and Time Three. After ten weeks of classroom

		Time 2		
		t	f	
Time 1	t	11	11	22
	f	6	15	21
		17	26	

true to false (S_{tf}) = .407

false to true (S_{ft}) = .222

		Time 3		
		t	f	
Time 2	t	9	8	17
	f	4	22	26
		13	30	

S_{tf} = .352

S_{ft} = .176

Note: $S_{tf} > S_{ft}$ at both T_1 and T_2 and T_2 and T_3.

S_{ft} at $T_2\ T_3 < S_{ft}$ at $T_1\ T_2$.

Fig. 1. "Students often secretly resent their teachers' education and higher social status."

experience thirty of the forty-three teachers believed the item to be false, and only thirteen continued to hold the opposing view. Moreover, the strength of the minority view had steadily dwindled. Six teachers had shifted from false to true between Time One and Time Two, but only four had defected to the minority view between Time Two and Time Three.

It is convenient to express these shifts over time as transition rates. There are a number of ways to compute these transition rates. One of the most sophisticated means is a stochastic model proposed by Coleman in his book on mathematical models in sociology.[4] Coleman has called this model a continuous time, discrete-state model with random shocks which assumes that in a state of relative equilibrium there exist "random shocks" which are continuously moving a certain number of respondents from one cell to another in a turnover table. When the relative equilibrium is disturbed, for example by an effect of the experimental treatment, the result is an increase in movement, relative to the random shock rate, from one cell to another. The model permits exact estimates of transitions in two-state turnover; in this case, the transition rates from true to false and from false to true, which can be attributed to the effects of the training program and teaching experience. For the data described in this study, however, a simpler method was used to compute transition rates, one involving the calculation of weighted proportions. This procedure has been more fully discussed elsewhere.[5]

The Evaluation Criterion

Once the two transition rates for each turnover table have been calculated, the evaluative criterion can be applied. The criterion consists of two rules which are jointly invoked Rule One states that the direction of the shift observed between Time One and Time Two must remain constant from Time Two to Time Three; there must be no reversion at Time Three toward the original Time One distribution of responses. Instead, there must be evidence of a continuing shift at Time Two and Time Three to new distributions even further removed from the original one at Time One. Rule Two states that when a consistent migration is observed over time, the rate of change running counter to the dominant trend must show a corresponding reduction over time, that is, the rate of transition in a direction countervailing to the dominant trend must be inhibited. An item which exhibits convergent agreement over time indicates that this information, learned in the training course, was found to be consistent with the teacher's own experiences in actual instruction and thus to have educational relevance. Appendix A outlines the evaluative procedure developed for this study.

Rules One and Two find compliance in the pair of turnover tables for figure 1. The transition rates for the shift from true to false are larger than the shift from false to true, both between Time One and Time Two and between Time Two and Time Three. This shift from true to false was the dominant trend and it was consistent over time. In contrast, the rate of change running in the opposite direction shows a reduction over time. The rate of the shift from false to true between Time Two and Time Three is less than it was earlier, between Time One and Time Two.

For the sake of comparison, an example of an item which failed to meet the joint criterion has been included. (See figure 2). In the turnover tables in figure 2, the shift from false to true which occurred between the beginning and end of the workshop was almost completely reversed by Time Three. The response distributions of Time One and Time Three are almost identical, and both are quite different from the distribution at Time Two. Thus, no cumulative agreement over time was observed to occur.

Results: A Negative Evaluation with Positive Aspects

When the method outlined in this paper was used to assess the effectiveness of the nine-hour workshop, it became apparent that the procedure imposed a very stringent test; the performance standard was set quite high. First of all, it was clear that the workshop did have a discernible, if modest, effect in altering teachers' attitudes and opinions. Sixteen of the one hundred items showed significant shifts in responses between Time One and Time Two for the experimental group and fourteen shifted significantly in the control group. Statistical significance was estimated using the binomial test. Furthermore, virtually all of the changes induced in the controls were found to persist at Time Three, a finding which suggests that even short-term courses lasting only a few hours are potentially useful as agents of attitude change.

That short-term training is potentially useful should be stressed, because in this case the effects of the workshop were almost totally erased by the experiences in the classroom. Among teachers in the experimental group, the effect of teaching appeared to cause fourteen of the sixteen items which had significantly changed during the workshop to revert toward the original, pretraining distributions.

When the joint evaluative criterion was ap-

		Time 2		
		t	f	
Time 1	t	23	2	25
	f	12	6	
		35	8	

$S_{tf} = .082$

$S_{ft} = .489$

		Time 3		
		t	f	
Time 2	t	25	10	35
		2	6	8
		27	16	

$S_{tf} = .440$

$S_{ft} = .089$

Fig. 2. "Students are apt to suffer speech defects such as stuttering."

plied to the experimental group data, it was found that only seven of the one hundred items exhibited cumulative agreement over the three observations, and in five of the seven instances, the largest shifts occurred between Time Two and Time Three, coincident with teaching experience and not with training. The content of the workshop must therefore be judged to have been, in large part, irrelevant — even incompatible — with what the teachers learned themselves from their contacts with adult students.

Although the evaluation of the nine-hour teacher-training workshop under consideration proved to be negative, the results do provide useful guidelines for revising course content and organization. Those items which showed cumulative consensus identify topics which can be elaborated upon and given greater emphasis in the future. On the other hand, those items which exhibited a strong reversal pattern help to isolate elements of course content which should be reconsidered, perhaps even omitted. The authors' conclusion is that the evaluative procedure developed for this study can provide essential feedback to assist in the gradual shaping of course content into effective training efforts.

APPENDIX A

Outline of Procedure for Measuring the Educational Relevance of A Short-Term Training Program

I. Construct a test or questionnaire to sample the content of the training course. Responses are dichotomous, that is, true or false, first or second alternatives on multiple-choice questions.

II. Administer the instrument at the beginning (T1) and end (T2) of training the course, and again after the participants have acquired some posttraining teaching experience. (T3).

III. Summarize the responses to each item in parts of turnover tables. Response frequencies are entered in the cells of a 2 x 2 table, with the upper left-hand and lower right-hand cells showing the number of teachers who did not change their responses to an item on the two occasions. The upper right-hand cell shows the number who said that the item was true but subsequently changed their response to false. The lower left-hand cell shows the number who changed from false to true.

IV. Compute the transition rates from true to false (Stf) and from false to true (Sft) between T1 T2 and T2 T3. Among several alternative procedures for computing transition rates are:

   A. Weighted proportions.[1]

   B. Values determined by a continous time, discrete-state model with random shocks.[2]

V. The binomial test may be used to estimate whether a shift between T1 T2 or T2 T3 was statistically significant. This step is optional.

VI. Examine the pair of transition rates calculated for each item, and apply the following joint-criterion:

   A. The direction of the shift observed between T1 and T2 must remain constant from T2 to T3. There should be no reversion at T3 toward the original T1 distribution of responses. Instead, there must be evidence of a continual shift at T2 and T3 to new distributions even further removed from the original one at T1.

   B. When a consistent migration is observed over time, the rate of change running counter to the dominant trend must show a corresponding reduction over time, that is, the rate of transition in a direction countervailing to the dominant trend is inhibited.

NOTES

This research was supported by a grant from the U.S. Office of Education to Laubach Literacy, Inc. It was presented at the National Seminar for Adult Education Research, Toronto, Canada, February 10, 1969.

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THE RECRUITMENT AND TRAINING OF PROFESSIONAL STAFF FOR AN ADULT BASIC EDUCATION LEARNING CENTER

Ray J. Ast

The adult basic education learning center, encompassing a learning lab, is a relatively new approach to serving basic educational needs of our adult population. Recent literature, though limited, offers us some factors for consideration in attempting to identify objectives, organizational and structural patterns, and technological aids, as well as services related to the development of adult basic education learning centers having learning lab components. Discussions among practicing adult educators, attesting to the effectiveness of the learning center approach in adult basic education, point up clearly the variety of conceptions and misconceptions prevalent at this early stage of center development.

This presentation will attempt to focus upon several very real organizational and personnel concerns growing out of experiences encountered in New Jersey while initiating full-time operational adult basic education learning centers in the target population areas of Newark and Camden. Supplementary reference where relevant will be made to earlier pilot adult basic education mini-learning lab projects on the campus of Montclair State College and at the New Jersey Greystone State Hospital.

Adult basic education learning centers in New Jersey have been initiated under the conception that a learning center is a most carefully structured organization of administrative, instructional, and counseling personnel, and selected instructional materials and equipment, as well as other related services the adult student may need. This structured organization is designed to be easily accessible for the adult at any time of day or evening. The structural pattern must be organized so that a completely flexible schedule of operation will meet the individual adult's interest, desire, or need. The primary focus of all personnel, all services, and all materials or equipment is upon the complete individualization of assistance to the adult from his instructional program design to whatever social, economic, or welfare referrals he may need.

On the basis of our experience, I believe that the foundation of a successful adult basic education learning center operation is the most careful recruitment and training of staff personnel. However, this foundation cannot be formed until a realistic definition and delineation has been established of learning center job tasks for each of the personnel needed. Simple job titles can be misleading. The delineation of job task responsibilities becomes necessary to prevent the recurrence of some of the traditional, less effective, approaches in working with the adult basic education learner.

The administrative leadership position for a learning center shall be called the ABE learning center director. This position involves a list of tasks or responsibilities that the director undertakes that will serve as a guide in determining the specific personal and professional qualities of the candidate for the position. The director will be "responsible for the direct administrative, supervisory and continuing evaluative activities in the center's operation."[1] A delineation of the board categories of administration and supervision shows many specific areas of training need, preservice as well as in-service, for our qualified candidate. Among examples of his job responsibilities in the New Jersey Project, the following are but a few.

1. Recruitment, interviewing, selection and recommendation of personnel to staff the local ABE learning center.
2. Formulate, and administer, such operational patterns and evaluative procedures, as are necessary to insure a continuity of effective performance of the local learning center.
3. Supervise the day-to-day conduct and operation of the local learning center.
4. Establish, and maintain, effective working relationship of the local learning center with MDTA Multi-Skill Center, as well as with other agencies and programs deemed to be desirable and necessary, including:

college adult education resource centers, employment services, local public schools A.B.E. programs, model cities projects, welfare programs, C.A.P. programs, etc.

5. Develop such instruments, and procedures, to implement the "instructional materials, equipment and techniques" continuing evaluation phase of an ABE learning center.
6. Insure the collection, processing, and evaluation of such information and data as is necessary to the success of the learning center.
7. Provide appropriate assignment, training, guidance, professional help and assistance to local learning center personnel.
8. Promote, and publicize, the local learning center's activities to insure maximum cooperation and support within the community.
9. Develop procedures, and supervise such procedures of the local center, for the selection, ordering, distribution, maintenance and servicing, evaluation, storage and inventory control of supplies, instructional materials and equipment.
10. Assume such office management responsibility as to insure effective operation of center.
11. Maintain essential records and files, as well as prepare such reports and studies as are necessary to the effective development of the learning center.
12. Carry on such activities as to provide for his own as well as the staff's professional development, including reading, adult education conference participation, and the development of a functional professional library at the center.[2]

In addition to such defined responsibilities the learning center director must have the leadership capability for creating a team effort among all personnel of the center. The diverse, yet wholly interrelated, tasks of the center's staff must be melded to achieve maximum effectiveness for the adult learner.

Other positions for which a careful delineation of responsibility must be made include those of the learning center counselor, lab specialist, lab aide, learning center instructor, and instructional aide, as well as the clerical and accounting positions required for effective center operation.

A description of the responsibilities of several of these positions may help focus attention upon the training needs of lab specialists, counselors, and instructors. A realistic design to meet the direct training needs of the professional personnel of learning centers is an imperative task for our colleges and universities.

The definition of the job responsibilities of the learning center guidance counselor as outlined in the New Jersey project is "Under the direction of the ABE Learning Center Director, he will assume the responsibility for development and implemenation of such guidance and counseling services, and activities, as deemed necessary to the effective functioning of the Learning Center program."[3] A few of the responsibilities that this definition includes are the following:

1. Assume responsibility for the development and implementation of procedures, techniques and instruments needed for effective and efficient introduction, enrollment and placement of students into an individualized program of learning at the center.
2. Assume responsibility for developing and implementing a complete program of orientation as to purposes, objectives and mechanics of the center for each prospective student at his enrollment.
3. Select and administer such tests and other instruments of evaluation necessary to the determination of each student's placement, as well as his progress.
4. Develop, and implement, a comprehensive referral program to community agencies so as to provide the most effective assistance to student's vocational, social, welfare, legal, health, etc., needs and interests.
5. Develop and implement effective follow-up procedures for students in the learning center program.
6. Assist the learning center director develop and implement effective interrelationships among counselor, instructor and learning lab specialist, promoting a maximum of individualized learning experience opportunity for the student.
7. Prepare and maintain such records, forms and reports necessary to the successful program functioning for the adult student.
8. Carry on such activities as to provide for his continuous professional growth and development.[4]

The learning lab specialist's position is as unique and as demanding as that of any other position at a learning center. With respect to his efforts in creating and developing the most effective uses of educational technology to serve the individualized needs of the adult student, the lab specialist's job is extremely complex, requiring considerable preservice and in-service training. As developed in the New Jersey project, the definition of learning lab specialist is quite comprehensive: "Under the direction of the ABE Learning Center Director, will coordinate, manage and supervise all artivities in the learning laboratory of the ABE Learning Center."[5] A description of his responsibilities includes:

1. Assist the learning center director establish procedures, methods and techniques for the effective functioning of the learning laboratory within the local ABE learning center.
2. Assume responsibility for the operational management and supervision of activities within the learning laboratory, including the scheduling of students into the learning lab, as well as supervision of learning lab aides.
3. Assist the learning center director to provide preservice and in-service training experiences for professionals and para-professionals for effective utilization of learning lab equipment and instructional materials.
4. Assist the learning center director and the guidance counselor develop and implement procedures for the effective placement of students into the learning center's educational program.
5. Assume responsibilities in developing procedures and instruments to aid effective diagnosis of the individualized, instructional needs of the adult students assigned to the learning lab, and, provide for the appropriate learning activity.
6. Develop procedures for the continuous evaluation of student needs and achievement, including such record keeping system necessary.
7. Assist the ABE learning center director develop such instruments, and procedures, to implement the "instructional materials, equipment and techniques" continuing evaluation phase of the learning center.
8. Assist the learning center director in the selection, use, evaluation and inventory control of instructional materials and equipment necessary to effective operation of learning lab.
9. Prepare such records, forms, files and reports necessary for the efficient functioning of the learning center.
10. Supervise the activities of the learning lab aides.
11. Carry on such activities as to provide for his continual professional development and growth.[6]

In an ABE learning center the job of the learning center instructor has a quality that is not found in the more traditional ABE classroom situations. His background of teaching experience must be carefully examined. Preservice training in nontraditional methods is absolutely imperative for the instructor to assure his overcoming many of the traditional school practices which could minimize the effectiveness of the center's services to the adult students. The learning center instructor in the New Jersey project is a key person in the implementation of an individualized program plan for each adult student.

Under the New Jersey Learning Center Project the job definition of the learning center instructor is stated as follows: "Under the direction of the ABE Learning Center Director, and, in a close working relationship to the Learning Lab Specialsit, the student, and the Guidance Counselor, will prepare an individualized program plan, and guide the individualized learning experiences of the student placed into the Learning Center program, based upon each student's immediate needs. He will be responsible for a continuous and/or periodic review of each program plan as the student progresses."[7] Some examples of the responsibilities of the instructor, working in a particularly close relationship with the student, the lab specialist, and the counselor, follow:

1. Plan and organize with the student, counselor and lab specialist, a program of individualized learning experience for each student assigned, utilizing selective programmed and individualized instructional materials suitable to the student.
2. Assist the learning center director in the development and implementation of "materials and techniques" evaluation procedures preparing such records and reports necessary to the center.

3. Assume responsibility for maintaining such records and reports of student progress, attendance, activities and problems as related to the student's individualized educational experiences.
4. Assume certain responsibilities for the evaluation of student progress in cooperation with guidance counselor and learning lab specialist.
5. Assists the learning center director in preparation and/or selection, use, evaluation and inventory control of programmed and individualized instructional materials used in the learning center.
6. Carry on such activities as to provide for his personal professional growth.[8]

It is to be noted that in the New Jersey ABE learning centers of Camden and Newark the rooms and room areas in which the instructors work are not referred to as "classrooms". They are specifically called "learning areas" and are furnished to provide tutorial aid as well as small group interaction learning experiences for the adult student.

One can readily see from these descriptions of professional staff responsibilities why a carefully designed program of training for all personnel of a learning center becomes imperative. In the New Jersey project and in the earlier developed pilot mini-lab programs preservice training, as well as formal in-service training, of all professional personnel became a requirement.

Under a project plan for the New Jersey Learning Center project, to become fully operative by October 15, 1968, all full-time professional personnel were recruited by September 20. Nearly all of the more than thirty personnel hired for the centers had previous teaching experience in traditional ABE programs and held teaching certificates. Several of the staff had participated in ABE teacher-trainer summer institutes. All personnel underwent an intensive program of preservice training planned and developed by the Adult Education Resource Centers of Montclair, Newark, and Glassboro State Colleges. Each college Adult Education Center assumed direction of one or more of the preservice training programs. The following outline briefly describes the planned, though limited, program.

Combined staff pre-service training programs areas of development:

1. Sensitivity to the needs and concerns of the adult as related to a learning center program.
2. Orientation to instructional techniques in the development of skill area learning experiences of adults at the learning center, such as programmed instruction, individualized instruction, small group seminar, supplemental approaches.
3. Orientation to learning experience materials — selection and use of — for the adult at a learning center.
4. Orientation to the nature of the learning laboratory and the counseling services as an important phase of the total learning center experience for the adult.[9]

Preservice training schedule

The combined staff met six times in two weeks in the fall of 1968 for five to eight hour sessions as follows:

1. Sensitivity training
   Glassboro State College Adult Education Center
   Livingston Cross, Director of Center
2. Center directors and lab specialists
   White Plains Learning Center
   Elliott Lethbridge, Center Director
   John KaKanes, Lab Specialist
3. Center staff meeting under the leadership of the center director
   At each learning center in Newark and Camden
4. ABE curricular materials — selection and use
   Montclair State Adult Education Center
   Dorothy Minkoff, Director at the Newark State College Center
   Irene Curry, Curricular Materials Consultant
5. EDL "Learning 100" orientation and ABE teaching techniques
   Montclair State College Adult Education Center
   Joe McCarthy, EDL "Learning 100" Training Specialist and Adjunct Professor, Montclair State College
   Florence Dick, Associate Director, Montclair State College Adult Education Center Reading Specialist
6. Counseling and the lab specialist activity in a learning center
   Camden Learning Center
   Elliott Lethbridge, Director of White Plains
   John KaKanes, Lab Specialist
   Ann Serrao, Counselor.[10]

In addition to the formalized program of preservice training a program of selected reading was carried on by each staff member from materials preselected for their particular value in terms of the tasks involved at the learning centers. A copy of this list of readings is available through the Learning Center Project Office.

In-service training programs are carried on regularly at each learning center, focusing upon the specific needs of staff at each center. At the conclusion of three months' operation all full-time and part-time professional staff members are involved in a program of self-evaluation with a particular emphasis on the professional responsibilities each is undertaking at the learning center. To develop an instrument for the self-evaluation of each staff member, a series of meetings with the staff members of each center led to the creation of the following self reporting questionnaire of professional responsibility and performance:

The primary, as well as ultimate, purpose of evaluations is improvement of performance

1. Define your role(s) at the learning center, as you perceive it (them).
2. Evidence(s) of the application of knowledge with respect to aims and objectives of the ABE learning center operation:
3. Evidence(s) of "sensitivity" to the characteristics of the adult learner enrolled in the learning center program:
4. Evidence(s) of competencies with respect to individualization of instruction: e.g., instructional techniques, instructional materials selection, awareness of individual student needs, learner's response, etc.
5. Evidence(s) of the knowledge, and use, of adult oriented instructional materials:
6. Evidence(s) of a cooperative "team" effort with respect to assessment of adult student's needs, and the instructional effort related to the student's needs:
7. Evidence(s) of cooperative "team" effort with respect to over-all learning center program development:
8. Evidence(s) of professional growth:
9. Your appraisal of the learning center's program development:
10. Other comments:

During the period from January 15 to February 15, 1969, each staff member noted his own self-evaluative assessments. Upon completion of the self-evaluation form the staff member shared his own evaluation with an evaluation of his role made by the learning center director. As the areas of professional strengths and weaknesses are identified through this comparative evaluation and a more formalized series of bi-monthly seminar sessions, a continuous program of inservice training will be developed.

NOTES

Definitions of positions and delineations of job responsibilities were prepared by the author to meet New Jersey Department of Education Personnel Division and New Jersey Department of Civil Service requirements for creating civil service positions and determining salary ranges.

1. New Jersey Department of Education, *ABE Learning Center Guidelines: Initial Formulation, September 1968-May 1969* (Camden, New Jersey: New Jersey Department of Education, Camden ABE Learning Center, n.d.), p. 1.

2. *Ibid.*

3. *Ibid.*, p. 5.

4. *Ibid.*

5. *Ibid.*, p. 18.

6. *Ibid.*

7. *Ibid.*, p. 22.

8. *Ibid.*

9. *Ibid.*, p. 31.

10. *Ibid.*, pp. 31-33.

MICROTEACHING: AN ILLUSTRATION OF PERFORMANCE TEACHING

Kevin Ryan

The word *relevance* is having a heyday. It has become a one-word platform for reform and reappraisal. For teacher education to be relevant, its students should be getting the skills, attitudes, and directions they need to perform well as teachers. In its simplest form the job of teacher educators is to accept decent, liberally educated people and provide them with a set of experiences which will make them successful — that is, will be relevant — in their new role. The woeful condition of the schools today is some indication of success to date.

Seventy or eighty years ago, when the university captured teacher education, it had a great opportunity to analyze the uniqueness of teaching and build a training program accordingly. This is not what happened. Except for student teaching, the university has treated the professional training of teachers the same way it treats general education. It forced teacher education into the prevailing university mode of courses, lectures, books, and examinations. Over the years it has become evident that teacher education is not working, that teachers cannot put the ideas espoused from the lectern into classroom practice. The university's response has not been to re-examine this problem as much as to move defensively away from it. The young teacher is told, "We cannot give you practical solutions. We cannot prescribe answers. We can only expose you to the great organizing principles and theories of education. Once these are grappled with, they will inform and direct your practice." As if by some magic, a young teacher faced with an abusive student will be able to recall a principle from psychology to help him at that moment. Universities have been able to get away with this because future teachers believed that the practical knowledge needed to maintain a classroom would come during student teaching. By and large, student teaching is the most valued part of teacher training; which is not to say that it has been effective. By itself, student teaching cannot carry the entire training burden. Although the methods suggested in this paper are equally pertinent for the training of teachers for preschool through high education, it should be noted that until very recently, the little teacher training that has been done in adult basic education has seldom included even student teaching with its inadequacies.

As the crisis in education deepens, or at least becomes more visible, the cry for relevance from graduate and undergraduate teacher trainees becomes more strident. The plea is for more practical experiences before and including student teaching or internship. In despair teacher educators have begun to lose confidence in the cherished foundations and methods courses. The new zeitgeist is, "Put them in the schools earlier so they can learn on the job." The innovative programs are no longer the Master of Arts in Teaching (MAT) programs, but those which immerse their students immediately into the "real world" of the schools, in para-, sub-, demi-, and semiprofessional roles. The intention is to immerse students in the activities or functional context of the school and then to provide them with applicable theories and means of getting answers to the questions which arise. This new emphasis on immediate practice certainly has some strengths, particularly when carefully linked to schools utilizing a differentiated staffing approach. This emphasis also has some deficiencies. It presumes that the student of teaching will learn what good practice is by coexisting in the schools with experienced teachers. In reality, what probably happens is that the beginning teachers, in their struggle for survival, learn to cope with students and the demands of their role, acquiring the biases and practices of their more experienced colleagues. In other words, they imitate what they see and continue education as it is.

Another difficulty with the instant immersion-in-the-schools approach is that while schools may have many excellent teachers, that does not necessarily mean that they have many excellent trainers of teachers. One thing that can be said about teacher education as it exists is that it is filled with people who want to teach teachers. Before the practice dimension is extended into the classrooms much further, a large mass of trainers of teachers must be developed who are knowledgeable in what and how to teach teachers. If this body of trainers is not developed, a cry for practical experiences for the sake of relevance may simply reinforce much of the irrelevance presently existing in American education at all levels.

Performance Training

Between the extremes of the traditional tell-them-how-to-do-it approach to teacher education and the throw-them-in-the-schools practical experience lies the performance approach. Performance training is based on the disarmingly simple idea of first identifying the professional skills and strategies a teacher should possess and then building training experiences to help people learn to perform those skills. Underlying the performance training movement is the idea that teaching is behavior. As behavior it can be categorized into a wide variety of activities, such as questioning, explaining, telling, testing, evaluating, record keeping, demonstrating, and order-maintaining. If one takes the point of view that teaching is basically behavior, then positive steps can be taken to identify the important skills and the training procedures which provide nonteachers with teaching skills.

Over the past few years there have been a number of different efforts toward performance training. Some of these efforts have involved the programed learning approach; others draw on simulation theory and role playing techniques. One such effort to develop performance skills is the microteaching approach.

In the ewrly 1960's teacher trainers at Stanford University became dissatisfied with the training being provided for teaching candidates. A great gap was seen to exist between formal teacher education and actual teaching; the gap of realistic training. The teaching profession, unlike most professions, has not provided its practitioners with opportunities for safe training, experimentation, or practice. Law students have their moot courts; airplane pilots their link trainers; medical students their cadavers. In those professions the denial of such nonacademic training experiences would be unthinkable. In teaching, however, all that was provided was observation programs and student teaching — both of a very hit-or-miss quality. Trainers had little control over the content of those experiences. Stanford University teacher trainers, seeing a need for a realistic training situation analogous to those used in other professions, spent a three-year period developing microteaching in response to this need.

What microteaching has provided is a safe but realistic training situation for teachers, both preservice and in-service. Microteaching is real teaching, but at the same time it is constructed teaching. It is designed so that teachers can concentrate on the mastery of specific teaching skills in a low-risk situation. The students do not suffer from it, because it is not part of their regular curriculum, The teachers, free to experiment with different techniques, increase their range of classroom skills.

Microteaching can be thought of as an approach or as a concept. Hopefully, it will not reach the status of an orthodoxy. There are no inviolable rules in microteaching. A microteaching situation can be described but not prescribed. In a typical microteaching session the teacher gives a brief lesson in her subject. Her performance is recorded on video tape. This video tape record is later used in the lesson critique. The lesson is a real lesson; a short lesson, typically of five minutes. The three or four students are real students. although they are not part of the teacher's regular class. The focus of the experience, however, for both the teacher and her supervisor, is on a specific skill.

When the teacher has finished the lesson, she will participate in a lesson critique with her supervisor. The subject of the critique will be the teacher's use of the particular skill she has been practicing. From what she learns from this critique, the teacher will decide upon whatever changes she would want to make to improve her use of the skill.

After some time to incorporate these changes in her lesson plan, she will re-teach the lesson which again will be critiqued. The process can be repeated as often as desired and altered to fit special circumstances.

A key advantage to the microteaching approach is that it allows for the immediate application of feedback, that is, the information the teacher gains during the critique. It is suggested that feedback from several sources be used. One source is feedback from the supervisor who may be anyone qualified to guide the teacher in critiquing the lesson. He may or may not be known to the teacher. He may be a member of the institution conducting the clinic or be employed specifically for microteaching supervision. A second source of feedback is the audio or video tape recording of the teacher's performance. Video tape equipment is not essential to an effective microteaching clinic, but is a most valuable tool. Its use is recommended when and where possible. Video tape assists the supervisor in analyzing a performance and in communicating his analysis to the teacher. Video tape allows the teacher to see herself teaching which is valuable in promoting self-evaluation and self-improvement. Third, the use of feedback from colleagues such as fellow participants in the clinic is suggested. Besides providing the teacher with additional feedback, the colleagues themselves learn by observing the session. A fourth source of feedback is the students. Student feedback is potentially quite rich, although it has almost always been used in an unproductive way. Research has shown that intelligently channelled student feedback is highly reliable. Finally, the teacher herself is a source of feedback. The self-critique is central to the microteaching approach. The teacher needs to learn how to evaluate her own performance. By comparing her evaluation with those of her supervisor, her colleagues, and the students, she will gain the perspective necessary for self-evaluation.

These five sources of feedback have a common quality: they focus on the specific skill being practiced. The supervisor does not evaluate the lesson as a whole; he restricts his critique to the specific skill under consideration. The students are not asked, "How did you like the lesson? but questions designed to elicit information pertinent to the skill being practiced. Microteaching increases useful feedback, while decreasing irrelevant feedback. In addition, since the teacher can apply this feedback to his reteach lesson shortly after the critique, maximum immediate use of it is made.

In essence, microteaching is a training setting. To date, teaching skills that stress the teacher's activity have been chosen for identification and training. The skills have been broken down into five groups or clusters of skills as follows: response repertoire, questioning skills, increasing student participation skills, creating student involvement, and presenting skills. A definition of each of these skill clusters follows.

I. Response Repertoire

A. *Verbal Responses.* The teacher attempts to broaden his range of verbal responses to various situations in order to communicate more effectively with his students. In practice, the teacher reads statements he might make in a classroom and gives at least three different meanings to each statement.

B. *Nonverbal Responses.* The teacher considers several nonverbal responses, such as facial expressions and gestures, and the different feelings he wishes to convey. Using combinations of nonverbal techniques, he tries to convey these feelings. Essentially, acquiring nonverbal responses involves exercises in pantomime. (It should be noted that in the teaching of undereducated, somewhat nonverbal adults this skill can be of great importance).

C. *Verbal and Nonverbal Responses.* The teacher begins with nonverbal responses. He then repeats the oral statements made in practicing the first skill, verbal responses, combining them with the appropriate nonverbal responses.

II. Questioning Skills

A. *Fluency in Asking Questions.* The teacher tries to ask as many logical and relevant questions as possible during the brief lesson. Mastery of this skill provides a new teaching technique for the teacher who tends to depend too heavily on the lecture method in making his classroom presentations. He begins to develop a dialogue with his students.

B. *Probing Questions.* Probing requires that teachers ask questions that require pupils to go beyond superficial first-answer responses. The teacher demonstrates probing by: (1) asking the pupil for more information and meaning; (2) requiring the pupil to justify his response rationally; (3) refocusing the pupil's or the class's attention on a related issue; (4) prompting the student or giving him hints; and

(5) bringing other students into the discussion by getting them to respond to first student's answer.

C. *Higher-Order Questions.* Higher-order questions are defined as questions that cannot be answered from memory or simple sensory description. They call upon the student to draw his own conclusions. A "good" higher-order question prompts students to use ideas rather than just to remember them. Although some teachers intuitively ask such questions, far too many overemphasize questions that require only the simplest intellectual activity in response. Procedures used with this skill have been designed to sensitize teachers to the effects on their students of various kinds of questions. It also helps teachers to develop their own ways of forming and using higher-order questions.

D. *Divergent Questions.* These questions are usually open and they have no single correct answers. They require the students to think creatively, to leave the comfortable confines of the known and to reach out into the unknown. Frequently, students are asked to make hypotheses and to use their imaginations in responding to the teacher's inquiries.

III. Increasing Student Participation Skills

A. *Reinforcement.* Reinforcement is an incentive used by the teacher to reward students for proper behaviors. The focus is on the teacher's use of positive reinforcement to increase student participation in classroom discussions.

B. *Recognizing Attending Behavior.* This is a skill designed to alert the teacher to what is going on in his classroom by training him to observe the cues his students present. By observing their facial expressions, body postures, and how they work or do not work, the teacher can tell a great deal about his students' interest level and attention span. From these cues the teacher can make judgments about whether to continue the activity, change it, or use a different mode of instruction. Recognizing attending behavior is a prerequisite for almost any kind of classroom decision.

C. *Silence and nonverbal cues.* These techniques are designed to allow the teacher to direct classroom discussions without talking. Nonverbal communication is one of the most neglected means of teacher-student interaction, but one of most powerful. Student teachers practice orchestrating discussions through nonverbal cues which give feedback and help to elicit student responses.

D. *Cueing.* Cueing is designed to give the teacher more control over the success a student has in making a comment. The teacher's use of cues can greatly increase the student's chances for making a worthwhile contribution to the class.

IV. Creating Student Involvement

A. *Set Induction.* Creating a mood in the classroom conducive to a certain learning experience is the subject of this skill training. Set induction involves introducing a lesson in an interesting way and establishing common frames of reference between students and teacher. The teacher initiates the activity.

B. *Stimulus Variation.* The teacher uses both verbal and nonverbal techniques to stimulate students. This skill is actually a composite of several small skills, all of which aid the teacher in providing greater variety in his classroom teaching.

C. *Closure.* Closure is a means by which the teacher helps the students to comprehend the organization of the main ideas and information presented in the lesson. An act of pulling together the major points, closure is complementary to set induction. It provides a link between past and new knowledge, and helps the pupil to gain a feeling of achievement.

V. Presentation Skills

A. *Lecturing.* Here the teacher practices some of the techniques of lecturing. Delivery techniques, use of audiovisual materials, set induction, pacing, closure, planned repetition, and other skills related to lecturing are included.

B. *Use of Examples.* The use of examples is basic to good teaching. Examples are necessary to clarify, to verify, and to substantiate concepts. Both inductive and deductive uses of examples can be effective in teaching. Uses of examples are as follows: (1) starting with simple examples and progressing to more complex ones; (2) starting with examples relevant to the students' experience and knowledge; (3) relating the examples to the principles or ideas being taught; (4) checking to see if the objectives of the lesson have been achieved by asking students to give examples that illustrate the main point; and (5) using analogies and metaphors to relate the known to the unknown.

C. *Planned Repetition.* The purpose of this skill is to clarify and to reinforce major ideas, key words, principles, and concepts in a lecture or discussion. The use of planned repetition is a powerful technique in focusing and highlighting important points and describing them from a different point of view. Improper use of this skill can cause confusion among the students, while proper use can direct their attention to points the teacher wishes to emphasize.[2]

To most scientists, research in teaching is in a primitive stage. To most practitioners, research in teaching has very little to say. There are many reasons for this. In the opinion of the writer, one reason is that until recently little emphasis was given to the scientific study of teaching. Education has been content with folk wisdom and windy assertions. The second reason is that the teaching act is a very complex one. There is no definition of the "good teacher." There is no theory of teaching. We have conflicting theories of learning, and especially, there is a variety of types of learning that interact with the complexity of the human condition. Third, definitive research on the teaching art is hard to do in the typical classroom situation. The large number of students in a classroom, the length of time devoted to the typical classroom session, and the complex nature of the variables inherent in any school situation makes the classroom an unfavorable setting for precise research.

Although it involves many of the problems mentioned above, performance training simplifies the research problem. A particular skill or strategy is identified as worthwhile. The behaviors that make up the success of the skill are identified. Then through modeling or some form of instruction a trainee attempts to acquire the new skill. The level of performance on the skill must be made quite clear to the trainee. One of the advantages of performance training is that trainees can move through the curriculum at their own speed. The institution's resources can be focused on the individuals needing the most help, rather than spreading it equally among all.

Once the trainee has acquired the skills, there are a number of questions still to be answered. How does the skill contribute to the learning of students? What is the effect of acquiring one skill, such as reinforcement techniques, on another skill, such as explaining behavior? Do the skills inhibit some of the natural teaching tendencies of the trainee? How much training is necessary for the skill to have transfer value beyond initial teaching encounters? What are the most basic skills which teachers should learn?

One of the major advantages of the performance training approach to teacher education is that it places the entire activity into a researchable model. It forces the researcher or trainer to be more precise about the most important question: What is the teacher education program trying to accomplish? The need for thinking through the sequence of training and the choice of methodology for the different objectives necessitate a very careful and systematic formulation of goals. In other words, a rigorous decision must be made about what trainees are to be able to do at the end of training. It would seem only logical to base the decisions on what teacher behaviors, strategies, and skills bring about the most desirable changes in students. A fruitful source of direction for these decisions is the research. Within and across the teaching disciplines certain methodologies, approaches, and materials have been found through research to be effective.

The second source of a program's goals should be the collective wisdom of the profession. From this storehouse of untested, and in many cases untestable, hypotheses about good teaching, the most promising can be extracted as objectives. For example, suppose it is decided that teachers should be able to teach inductively and also to know the most appropriate situations in which to employ this type of teaching. It happens there is little research in this area. Or it may be felt that with slow learners the teacher should vary activities more frequently than with other students. Despite the fact that one is on the slippery ground of intuition here, benefits can accrue. First of all, by realizing which aims are based on research findings and which on tradition or intuition, more attention may be paid to the value of the goals. In this manner, shibboleths and untested truths may be sorted out. Also, the very act of identifying which objectives have been researched will focus the professionals' attention on the most promising hypotheses and in this manner, hopefully, they will be able to nibble away systematically at the unknown.

The results of program goal setting should be a list of skills the teacher should perform, or a behavioral description of the good teacher. Such a list should include the specific levels of performance on such activities as explaining, lecturing, directing various types of discussions, or questioning behaviors. Further, the list should include skills and activities unique to a particular discipline. To keep from developing a static curriculum in teacher education, this list of goals should have built-in change mechanisms to meet new demands for teaching skills in the classroom.

This paper has argued for a better planned, more systematic approach to the education of all teachers. It has argued that professional training should deal with the special ways of thinking and acting that lead to successful performance. If the purpose of teacher education is to develop skilled practitioners, then the professional curriculum should be built specifically to accomplish this. Each element in a program must have proven relevance to the overall objectives. Teacher educators should start by taking seriously themselves what they expect from their trainees, that is, trainers also should work out their objectives in behavioral terms, test themselves to make sure that they carry out those objectives, and test their students to see if they have been achieved.

NOTES

1. Dwight Allen and Kevin Ryan, *Microteaching* (Reading, Mass.: Addison-Wesley, 1967).

2. Taken from *An Introduction to Microteaching*, a film produced by General Learning Corporation, New York, 1969.

3. Kevin Ryan, "A Performance Model for Teacher Education," mimeographed (Chicago: University of Chicago, Graduate School of Education, 1969.

THE VIDEO TAPE RECORDER IN TEACHER TRAINING RESEARCH

Herbert L. Nichols

In June, 1962, a contract was executed between the Agency for International Development and English Language Services (ELS) in which ELS agreed to engage in an operations research program to develop within three years a complete autoinstructional program for preparing teachers of English as a second language. This program was to be designed for overseas use with indigenous trainees with minimal speaking capabilities in English.

The schedule of program activities was divided into four phases. Phase one was the data collection phase concerned with elucidating the stimulus-response blueprint of teacher behavior at the master skill level. The primary instrument used to collect data was the video tape recorder. Phase two was the theoretical analysis of the data collected in phase one; phase three, the preparation of training materials and devices based on the prescription derived from phase two; and phase four, the field testing and validation of the training system designed. The activities to be discussed in this paper are those of phase one. The discussion will be additionally limited to a qualitative accounting.

The purpose of this report is to coordinate suggestions offered by Thomas F. Gilbert, a behavioral scientist, with video tape viewing and reviewing procedures, and to explain how the principles of mathetics may be applied to isolating and describing the step-by-step teaching techniques used by the teacher throughout each course.

The project was called the Teacher Training Research Project (TTRP). After two years of operation the project was known as the Teacher Education Program (TEP). The staffing requirements of the project brought together persons of diverse disciplines: a linguist, a psychologist, a sociologist, a cultural anthropologist, language teachers, teacher trainers, a psycholinguist, and television engineers and technicians. Additional outside consultants were made available to the project as needed.

Phase one started with the readying of the technical crew and equipment to begin taping eight hours of regular classroom activity in English as a second language. This video taping activity had been planned to continue for one year, but after about three weeks of taping a stop order was issued by the project director, and a more rigorous orientation session was begun for the technicians and staff led by Dr. Gilbert. Following the single orientation session, it was discovered that the technical crew was less efficient than they had been in the beginning. It was then decided that much more than a single orientation session was necessary for the staff as well as the technical crew.

Television engineers and technicians, familiar as they were with television equipment, were not prepared to extract via their television cameras the behavioral data required to satisfy the objectives of this first phase, although very much at home when photographing a structured scene at a studio or even the remote field pickup in the man on the street show. (Consider the time worn cliche, "I saw it on television or in the movies, but it was not like the book.") In other words, to document scientifically the master skill level of teacher behavior, artistic license could not be given in any quarter. The video tape on playback had to report faithfully what had happened in the classroom, including both the verbal and nonverbal activities. To develop fidelity in reproducing classroom behavior, series of seminars were developed involving the total research team over a period of about five weeks. The seminars were divided roughly into four parts, of which the first three will be amplified in this paper: (1) a description and explanation of *standard effort*; (2) the teaching of pertinent mathetics shorthand symbols for recording data from video tapes; (3) the application of the terminology and concepts of mathetics to video tape viewing and reviewing procedures; and (4) the needs and techniques for indexing, storing, and retrieving this data from IBM cards.

Standard Effort

Basic to the development of teacher training techniques and materials is the description of teaching behavior. The English Language Services Language Center developed video tapes of the teaching of English as a second language for the purpose of describing teaching behavior. To accomplish this, teacher-student behavior, that is, stimuli and responses, were analyzed in terms of *standard efforts*. The ideal standard effort (SE) is what the teacher does (S = master skill stimulus) to elicit a correct behavior from the student (R = master skill response). More specifically, the teacher must: (1) get the student to observe (S^O) the master skill stimulus (S^D); and (2) get the student to make the response (R), while observing the master skill stimulus (S^D). Then the student must: (3) observe the outcome of mastery (R); and (4) this outcome must be reinforcing (S).

Since at this stage of research ELS is not in a position to state exactly what the ideal standard efforts are, they can be described only on the basis of what is observed as having occurred in actual classroom situations, which may or may not be ideal standard efforts. However, since it cannot be definitively stated that the observed standard efforts are ideal, they will be considered as approximations of ideal standard efforts (SE').

Mathetics Shorthand Symbols

The following is an example of a possible ideal standard effort based on actual video tape observations, to illustrate the application of the concept of standard effort to research on teaching.

S^O Teacher writes sentence on blackboard.

S^A Teacher points to sentence and says, "Look at this."

S^C Teacher says, "This will be a pronunciation drill."

R^O All students give their attention to sentence on blackboard, and nod.

S^I Teacher says, "Repeat this sentence after me."

S^D Teacher reads sentence aloud.

R Students repeat sentence after teacher.

S Students hear themselves uttering sentence, and are reinforced; students are additionally reinforced by teacher's comment, "Good."

The teacher must establish a fixed order of mastery, a behavior change. To do this, the teacher substitutes prompting (S^P) for instructing (S^I).

S^P Teacher repeats sentence and exaggerates pronunciation.

R Students repeat sentence with exaggerated pronunciation.

S Students are reinforced by hearing their own utterances conforming to the teacher's exaggerated pronunciation.

In accordance with the suggestions made by Gilbert, descriptions of teaching behavior include not only standard efforts (SE) which are considered efficacious, but also departs from good standard efforts (SE). He outlined the following types of departures as applicable to the individual stimuli comprising standard efforts: (1) no attempts made, (2) aborted attempts made, (3) erroneous attempts made, or (4) excessive attempts made.

It goes without saying that the standard effort as defined in this paper does not take into consideration all of the components of a classroom situation. First, however, observers must become proficient in isolating and describing the basic teaching-learning, teacher-student, interaction. Once this proficiency has been achieved, the observers can then consider nuances of behavior having a direct bearing on these basic interactions. Categories of the teaching-learning situation to be considered after this initial proficiency is developed include: (1) motivation; (2) competition; and (3) special strategies, including: (a) chaining, (b) discrimination and (c) generalization. Present plans are to describe each of these refinements of behavior according to procedures similar to those outlined for the description of standard efforts, including both approximations of the ideal and departures from the ideal.

The use of mathetics shorthand and the scheme of defining ideal teaching behavior and possible departures from the ideal served as the master blueprint for ELS's behavioral extractive system for professional staff as well as for the television technical crew. The standard effort model in some ways resembles many of the paradigms describing electronic systems, and technical personnel are much at home with systems analysis. The concentration of ESL teams on camera focus could be more effectively directed because of the greater understanding of communications behavior analysis in the classroom.[1]

ELS began to relate this classroom activity as a series of events or stimuli-responses (SR). Each SR was identified as a link in the chain of total events each class hour. Briefing instructions finally were able to be taken from the classroom teacher on what her objectives were session to session. The video tape recording lengths were sixty-five minutes, but total recording time was limited to fifty minutes unless circumstances dictated otherwise. Camera technicians became very skilled at identifying and recording data pertinent to the prestated objectives for the session. This activity continued at a rate of thirty hours each week for approximately one year.

The opportunity to observe a teacher of one culture interacting with learners of another culture presented a new communications' facet to the eyes and ears of the cameraman. The significance of body kinesics in cross-cultural communications became obvious to the ESL staff as they observed the American teacher interacting with the East African, Arab, Korean, and northern European learner.[2] There were dramatic differences in the closeness or distance maintained by the teacher as she was in communication on a one-to-one basis.[3] Stiffness and formal limits of gestural expression were observed as used by the Austrian learner to the teacher, as well as what was considered by the teacher to be an overstepping of closeness for conversation by the Arab student. Also, the staff was able to see student-to-student and teacher-to-student relationships in the heterocultural situation, such as "boy meets girl," "the teacher es no sympatico," or "a woman is not a good teacher." The capturing of this verbal and nonverbal behavior or video tape proved to be a most economic system for gathering research data. The use of this media was immediately applied to other language teaching and learning activities at ESL facilities. Many of the observation and recording skills learned in this research effort can be directly applied to the problems of designing communications training programs for teachers of speakers of nonstandard forms of English.

In conclusion, English Language Services has refined and demonstrated the use of the video tape recorder for data gathering in research on teaching. ELS found that technical television crews and professional staffs need joint training in the behavioral sciences in order to obtain a true reproduction of classroom behavior and to be able to analyze or define that behavior. The goal of the research was to define ideal teaching behavior in the teaching of English as a second language and departures from the ideal, using the shorthand of mathetics. Although the development of skill in defining classroom behavior must start with the simple determination of verbal interaction based upon the teacher's stated objectives, many uses of the video tape recorder were seen in research on more subtle, nonverbal interactions.

NOTES

1. The system motivated several of the technicians to gain further knowledge in the field of educational technology by enrolling in graduate level courses.

2. Charles E. Osgood and Thomas A. Sebeok, eds. *Psycholinguistics: A Survey of Theory and Research Problems with a Survey of Psycholinguistic Research, 1954-1964, by A. Richard Diebold and the Psycholinguist by George A. Miller*, Indiana University Studies in the History and Theory of Linguistics (Bloomington: 1965).

3. For a discussion of the use of space by different cultures, or *proxemics*, see Edward T. Hall, *The Hidden Dimension* (New York: Doubleday, 1966).

Adult Students

SYRACUSE UNIVERSITY ADULT DEVELOPMENT STUDY: A PROGRESS REPORT

Rolf H. Monge and Eric F. Gardner

The purpose of this chapter is to review a relatively long-term research project in progress at Syracuse University. A brief history of the beginnings of the project will be followed by a discussion of its purposes and its present status. This paper will conclude with a brief discussion of the plans for the project.

HISTORY

The project, a five-year program of research funded by the U. S. Office of Education, is formally entitled "A Program of Research in Adult Age Differences in Cognitive Performance and Learning: Backgrounds for Adult Education and Vocational Retaining." For easy identification this project is titled as the "Syracuse University Adult Development Study." The project was started in mid-1966 by the late Raymond G. Kuhlen and by Eric F. Gardner, and is presently directed by the authors.

The first two years of the program were devoted in a large measure to an extensive review of literature, designing and building equipment, developing data collection instruments designing and conducting pilot work for experimental studies, and developing a pool of adult subjects.[1] In short, the first two years were largely devoted to "tooling up." For the most part this phase has been completed, and the major part of the program is now under way.

It would be inappropriate to discuss the history of this program without a mention of the contribution made by Raymond G. Kuhlen who was, with Dr. Gardner, the cofounder. Dr. Kuhlen was a noted developmental psychologist, whose major interests were the psychology of adolescent development and the psychology of maturity and old age. In the field of gerontology he is probably best remembered for his contributions to the study of age trends in motivation and adjustment. During the last years of his life his attention was focused in particular on motivation and on personality variables that might differentially influence learning during young adulthood, middle age, and the later years of life. Dr. Kuhlen's contribution to this project was profound, and his loss deeply felt. Much of the descriptive material that follows has been adopted or paraphrased from material that Dr. Kuhlen participated in writing.

PURPOSES OF THE ADULT DEVELOPMENT STUDY

This project grew out of the recognition of the social importance of programs aimed at the retaining and vocational rehabilitation of workers at all levels and of all ages. It was given impetus by concern over the lack of scientific information about the role of personal variables in complex human learning at different adult ages. There can be little doubt that the degree to which the productive abilities of adults of different ages can be utilized in various types of work situations, and the degree to which adults can be effectively and efficiently retrained depends in large measure upon an understanding of their intellectual resources and learning ability.

A good deal is already known. Botwinick has recently published an excellent critical and interpretive review of research on adult cognitive processes and is, himself, a distinguished contributor to this area.[2] A very substantial body of research data on adult learning has been accumulated since the early reports of Thorndike thirty to forty years ago.[3] However, most research has served primarily to describe age differences in learning and performance as evidenced in laboratory types of tasks.[4] Little research has been done on the more meaningful types of verbal learning, nor has much been directed toward an analysis of the types of variables, particularly personal variables, that might differentially influence learning at different times in adult life. While there have been many studies of age differences in performance on intelligence tests, such data are relatively restricted in scope, especially with respect to the sampling of abilities with items appropriate to older adult groups. Little is known regarding the range of educational knowledge and skills (reading comprehension, arithmetic skills, general knowledge) that people of different ages bring to learning tasks. Nor is much known regarding adult age differences in motivation to achieve or the degree to which adults experience apprehension and anxiety in situations requiring new learning.

One purpose of the Syracuse program of research is to determine age differences in cognitive abilities with special reference to items selected as suitable for adults of different ages, to survey the educational backgrounds and skills that older and younger adults bring to learning situations, and to study age differences in personality characteristics likely to influence the individual's learning. A second main purpose of the research is to investigate experimentally the interaction of the variables mentioned above with the age of the learner in determining learning and performance.

Cognitive Abilities, Educational Background, and Learning Orientation

The first of the two aspects of this research program involves a determination of adult age differences in a variety of abilities and personal characteristics of presumed importance in learning at different adult ages. The following description relates to studies of adult age differences in: (1) congitive abilities, (2) educational background, and (3) learning orientation.

Adult Age Differences in Cognitive Functioning

It is obvious that the ability of adults of different ages to profit from educational, training, or retraining programs will depend in part on the types and levels of abilities they bring to those tasks. Yet, except possibly for Wechsler's studies with an intelligence scale designed for use with adults and a study by Demming and Pressey, there has been no systematic nor extensive effort to explore adult age differences in cognitive abilities as such abilities are revealed on a wide range of types of individual items, or on items appropriate for adults of different ages.[5] Mainly, explorations of intellectual differences during the adult life span have been accomplished by means of tests that have been developed for and standardized on young adult populations, such as college students or army selectees. And these studies have focused upon age differences in subtest or total test scores, with little attention paid to age trends on individual items. The resulting data have serious limitations for an understanding of adult abilities. In the first place, it is not improbable that tests designed for young adults will prove to be biased against older adults; the observed decrements in test performance noted with increasing adult age may simply reflect the structure of the test. In the second place, the subtests employed, for example, vocubulary and general information, are relatively short and homogeneous.

In light of these probable age biases on tests, it is likely that some of the seemingly well-established generalizations regarding mental functioning, such as those relating to the stability of the functions measured by vocabulary and information, reflect an oversimplification of the problem. In contrast to stability over age, it is reasonable to expect that rather important age trends would be found to occur if a wider variety of items were sampled and varying levels of scoring criteria employed. One would anticipate, for example, that vocabulary relevant to various interest patterns would show gains or losses as interest in those areas waxed or waned. It might further be anticipated that in a technologically dynamic culture, in contrast to a static culture, new concepts, that is, new words, and new information would be generated at a relatively rapid rate and would be transmitted with greatest force to the younger people in a society. Under these circumstances older people would presumably be at a disadvantage, when compared with younger people, in their knowledge of newer concepts, although they may equal their juniors or even have an advantage over them on information items relating to the more static elements of the culture.

One would be led to expect that much is to be learned about adult intellectual functioning through the construction of a wide variety of different types of items, and especially through the development of items that are differentially appropriate for the various age bands of the adult population. One major phase of this research program involves the development of such items and the exploration of adult abilities by these means.

Thus far, twenty tests have been developed specifically aimed at discerning differential age trends among adults. About a dozen of these are cast essentially in the form of specialized vocabulary tests, that is, tests of knowledge of terminology in such areas as modes of transportation current at various times in the past seventy-five years; financial matters, including stocks and bonds, extate management, wills, and installment buying; diseases and other medical matters peculiar to various adult ages and matters related to life termination; fashions in clothing in this century; arts and literature; and hobbies and sports popular among different age groups. Two particularly interesting developments have been vocabulary tests of slang current among different generations and of words coined or deemed acceptable by lexicographers at different times in recent history. These tests are of particular interest because of the degree of objectivity that it has been possible to achieve in constructing them through the sampling of contents of slang dictionaries and unabridged dictionaries. The major effort has been to develop tests that contain items designed to give one generation a particular advantage over another, either by virtue of members of the generation having lived in the culture at the time when now-obsolete or extinct modes of transportation, entertainment, language, and so on, were current, or by virtue of the existence of age-related experiences, for example, disease, or wills and estate management as opposed to installment buying. As will be noted later, several of the vocabulary tests have reached an advanced state of development and are currently being administered to a large number of individuals. Others are being developed, and some are being rewritten as the result of findings from preliminary administrations.

Several additional sets of items in various formats are also being developed, all having undergone at least one preliminary administration. Some of these items are designed to sample interest or experience domains such as cooking and recipe manipulation, card games, and understanding time tables and road maps. Others are designed to determine age differences in test-taking behavior, such as guessing strategies, distraction by irrelevant information, response omission, and ability to follow directions.

While a major aspect of the analysis of the data consists of the establishment of age trends and sex differences for individual items and significant groups of items, attention is also being directed to the possibility that ability as so assessed may have differential validity at different ages. Exploration of this issue is being accomplished in two ways: (1) through the determination of age differences in the correlation of the individual items with some learning criterion, such as performance on the laboratory tasks to be described later in this paper.

Adult Age Differences in Educational Background

The ease with which adults of different ages can deal effectively with demands made upon them in training or retraining programs will also depend to no small degree upon the amount of relevant knowledge and learning skills, such as reading, that they bring to such tasks. Since older adults tend to have less formal schooling than younger adults and are more remote in time from that schooling, it is reasonable to expect that they would bring less in the way of background to the learning tasks they face. However, it is possible that social and occupational demands made upon at least some adults will result in informal learning to a degree that more than compensates for expected deficiencies. Thus, the actual level of background knowledge and educational skills that adults possess can be ascertained only by a direct check. One phase of the Syracuse program consists of a survey of the educational level of adults of various ages. An appropriate instrument for such a survey is the Adult Basic Learning Examination (ABLE).[6] The ABLE contains subscales relating to such knowledge and skill areas as arithmetic computation and problem solving, reading comprehension, general vocabulary, and spelling. While there is a degree of overlap between certain of the items included in this instrument and items involved in the tests outlined above, the distinction between the two is the degree to which such skills and knowledge are explicitly taught in schools. The types of items included in the survey using the ABLE consist of formally-taught school materials.

While there have been some scattered studies of adult age differences in educational background, no study has systematically and extensively explored this matter. Most conclusions regarding such matters are based on inferences from the administration of standard intelligence tests.

Adult Age Differences in Learning Orientation

The extent to which adults of different ages are positively oriented toward the seeking of new educational experiences (whether these be voluntarily selected courses in continuing education or retraining programs necessitated by change or work), or the extent to which they react negatively to such learning opportunities because of uncertainty or apprehension may, in a practical sense, be of even greater importance than the abilities or the backgrounds they bring to such tasks. They may, in fact, avoid uncertain or anxiety-producing situations. Even when involved in a learning program, the level of an individual's performance likely will be determined significantly by the extent to which he is achievement oriented or is threatened by the situation in which he finds himself.

It has been rather clearly established, for example, that in complex types of learning, anxiety tends to have a negative effect, reducing performance. Among other reasons, this may come about because the anxious or threatened person experiences some confusion between competing responses, is unable to attend to the task, or tends to make up his mind too quickly with regard to how he should proceed. In view of the theoretical as well as the practical importance of such personal variables in the learning of adults of different ages, a third element has been included in the survey of adult age differences, namely what has here been called "learning orientation." An attempt is being made to determine whether middle age and old age bring positive or negative changes in learning orientations.

The relevance of different types of learning orientation variable to adult learning can be commented upon more economically in connection with the procedures being utilized or planned for measuring these various characteristics. It is necessary in this phase of the study to obtain information regarding four types of characteristics: (1) motivation for learning and achievement, (2) learning apprehension or anxiety, (3) personal rigidity, and (4) life-style or learning sets. Each of these characteristics will be discussed briefly in turn.

Motivation for learning refers to what is commonly called achievement motivation — the desire to achieve and accomplish either in competition with one's self, with an absolute standard of competence, or with others. In a sense, the Syracuse studies are concerned with the likelihood that adults of different ages will seriously apply themselves to learning tasks. The measure being employed in this study is being patterned after existing scales designed to measure achievement motivation.

The measures of learning apprehension relate to the degree of apprehension, uneasiness, or nervousness generated by learning situations or various cognitive task situations that an individual faces. Several types of measures are being tried. One measure relates to what has been called "test anxiety," and another commonly is referred to as "manifest" anxiety. The test anxiety scale is being developed in the pattern of existing scales, though phrased with due regard to the adult age of the sample studied and the types of situations adults face. The scale of manifest anxiety is also being adapted from existing scales. The primary requirement for the measure of learning apprehension is that the scales be brief though reliable, that the subscales sample anxiety generated in different situations, and that the overall scale be acceptable to adults of varying ages. One important assumption in theories attributing causal significance to anxiety in producing age-related variance in performance and in other aspects of personality is that anxiety becomes more general and less situational with increasing age. This assumption is being tested in the present research.

A measure of rigidity, conceptualized as a need for structure, is included among the scales being employed and planned in this phase of the program because of the theoretical importance of rigidity in learning. Evidence seems to suggest that people do, indeed, become more rigid with increasing adult age (although the data are not entirely consistent), and that the rigid person prefers certain types of learning tasks (school subject matter, for example) and learns more effectively with relatively structured teaching procedures. However, the rigid person may also pose for himself certain handicaps to learning by reaching premature decisions regarding solutions to problems or by incorporating elements that are in fact irrelevant into his perception of the problem or its solution. A short form of the dogmatism scale used by Rokeach in research on rigidity as related to learning, problem solving, and other behaviors has recently become available and is being used both in its present form and with further development.[7]

A final measure of personal characteristics planned for use in the adult development study relates to what might be called "style of life." It is probable that the individual who has devoted his time to recreations of a nonintellectual sort will be less competent in learning tasks than an individual who has a history of active participation in activities involving initiative, responsibility, and new learning. Style of life refers essentially to what Harlow called learning sets.[8] It is not unlikely that a part of the threat that seems to be posed for older adults by new learning situations stems from the fact that they are aware that they have not participated in new learning for some years and therefore do not have the appropriate orientations or sets for such learning. Quite aside from the extent to which threat is involved, a lack of experience in learning may prove a serious handicap to the older learner. Accordingly, it seems desirable to attempt to measure life-style in relation to learning and to determine the degree to which adults of different ages are characterized by a lack of learning experience.

Two instruments have been developed by Ingham and by Litchfield, consisting primarily of surveys of the types of activities in which people have recently engaged, which have been selected carefully according to the degree to which they involve initiative and new learning.[9] In a sense, what is being measured by these scales is not only the character of present experience, but the degree of positive affect associated with living in general, especially as related to new learning experiences.

EXPERIMENTAL STUDIES

The second major aspect of the program of research outlined in this paper relates to the actual performance of individuals of different ages in learning tasks and the interaction of various personal characteristics with age in the performance of those tasks. Several major hypotheses which give direction to this series of studies will be stated in a general way.

Major Hypotheses

The first major hypothesis being investigated is that a measurable portion of the decrement in learning performance usually found with increased adult age may be attributed to the greater susceptibility of older adults to psychological stress. The ways in which anxiety may influence learning have been suggested above. Available evidence indicates that older adults tend to exhibit more anxiety symptoms than do young adults, especially under stressful conditions, suggesting one possible explanation for learning decrements with increasing adult age.[10]

A fairly extensive experiment is underway to assess the effects of social stress on adults ranging in age from the early twenties through the seventies. Subjects are drawn from the memberships of several cooperating social, cultural, and religious organizations in the Syracuse area. The treasury of each organization is enriched in proportion to the number of its members and their spouses that volunteer to participate. Subjects, segregated by sex, are randomly assigned in order of appearance to one of two conditions. The control group consists of three subjects seated side-by-side in the same room, but visually inaccessible to each other, each working at his own pace through eighteen multiple-choice items presented one by one on individual projection screens. There are six verbal reasoning items, six perceptual reasoning items, and six arithmetic problems presented in mixed order. Each item is presented automatically for a maximum of sixty to sixty-five seconds, which is, for the vast majority of people, more than ample time. Thus, little or no stress is engendered by time pressure. Subjects indicate their choice of the alternative answers by push button and are given immediate knowledge of the results on each item by signal lights. The experimental group performs the same task, but the subjects can see each other and can see one another's signal lights, so they know whether the multiple-choice selected by one of them was right or wrong. As in the control group each subject proceeds at his own pace. It is quite difficult for subjects to read the item presented on other than their own screen, so there is little chance for contamination. Furthermore, the middle subject is in reality a fake subject or stooge — one of two members of our staff of the same sex as the subjects. The stooge is instructed to stay two to three items ahead of the faster of the two subjects. The stooge's console is rigged to indicate on the signal lights that 16 of the 18 responses made are correct, regardless of the choice buttons pushed. The stooge also makes "helpful remarks" along the way, such as "Gee, these are easy," or "Hey, there's a trick to solving these." These remarks are carefully scripted and standardized so that all subjects get the benefit of the same performance. At no time, incidentally, does the stooge direct comment individually at either subject, so there is nothing personal in his or her remarks. The basic idea, of course, is to provide the subjects in the experimental group with a social stress situation that is not too far different from the type of experience that might be encountered in an adult education class when people disparate in ability, experience, and age are gathered together.

The dependent variables in this study of social stress are the number of correct responses, the latency of response, the degree of confidence in response (which is also indicated by the subject with push buttons), and the deviation in heart rate from preexperimental base-line data, which is assumed to be a measure related to the degree of stress experienced. Subjects also complete pretest and post-test anxiety questionnaires.

Although the social stress experiment is still in progress, the very small part of the data considered to date seems to indicate that male subjects aged in the forties and fifties make more correct responses than males in the twenties and thirties, but that the older male subjects in the stress condition are more affected relative to their controls than are the younger men. It must be emphasized that this is only a preliminary impression; however, if this finding holds up through the end of the experiment, it could be quite significant. Although the stress condition was fully expected to be more deleterious to the older subjects, that the level of performance would be generally higher among the older people was not expected.

The second general hypothesis relates to the role of attitudes in learning. It has been shown in previous research that individuals who hold unfavorable attitudes have difficulty in both learning and remembering verbal material related to those attitudes. This is a somewhat controversial area of research, with recent studies suggesting an interaction between emotional and cognitive variables in determining the poorer performance of those with attitudes unfavorable to the content of material to be learned. In view of the greater rigidity and dogmatism of the older adult, it may be predicted that the emotional element will outweigh the cognitive element in this interaction to a greater extent for him than for the younger individual. In other words, it is hypothesized that the degree to which an older adult can learn controversial material is influenced by his attitudes to a greater degree than is true for the younger adult. This study is in the pilot phase.

The third major hypothesis involves the relation of learning sets to age losses in learning performance.[11] The learning set hypothesis asserts that, for one reason or another, older adults do not know how to learn as well as younger people. In his classic paper, Harlow defined learning set as "learning how to learn a kind of problem, or transfer from problem to problem."[12] Learning set refers to a nonspecific transfer of learning — the transfer of the knowledge of the tools and techniques of learning rather than the transfer of a specific subject matter. In the context of aging it is proposed that as adults grow older they encounter fewer occasions requiring new learning, and therefore the habits of learning they developed during formal schooling and in the early years of maturity have deteriorated through lack of practice. To illustrate this concept in the classroom setting, the individual who has been out of the routine of formal schooling for any appreciable length of time is likely to have lost a substantial portion of whatever he may have known about how to learn. The reference here is to such tools of learning as knowing how to study, how to concentrate or focus attention, how to organize work, how to take notes, and a myriad of other mental adjustments and attitudes toward the process of learning.

Those who have taught courses enrolling people who have been out of the school routine for some time no doubt have had the experience of dealing with students who after the first class meeting gather at the lectern to express serious doubts about their ability to compete in an academic setting. To be sure, some of these older students are merely having problems in rearranging the priorities of their daily lives to find time for studying, but there are those who are genuinely concerned about recapturing their skill in the mechanics of learning.

While the learning set hypothesis was couched in terms of chronological age, it should be noted that age, per se, is not the critical independent variable. The critical variable seems to be the cognitive style of life of the individual, that is, individuals who are more or less continuously engaged in making use of the tools and techniques of learning should suffer little or no deterioration in learning set. Older adults who have maintained learning sets may be expected to perform more nearly like young adults than will those who have not maintained learning sets. Some evidence bearing on this point comes from the study conducted by Levinson and Reese.[13] They compared the performance of children, college students, institutionalized and community-dwelling aged, and retired college faculty on a classic Harlow-type object-quality discrimination learning set series. Performance increased with age in the early years, reaching a peak in the college-age group, and decreased with age thereafter. Of particular interest, however, was the finding that the retired faculty were markedly superior to the other aged subjects. Levinson and Reese suggested than "an initial high IQ and/or considerable educational achievement may be more significant variables than CA (Chronological Age) . . .". Presumably the learning ability of older Ss and their capacity to deal effectively with large amounts of incoming information is maintained by large amounts of educational experience."[14]

The first of the planned series of studies in the Syracuse research program was a learning set investigation.[15] The major purposes of this study were to examine suggestions that there are, in addition to the deficit due to loss of response speed with age, deficits in concentrating or focusing upon the materials to be learned. The paired-associate paradigm was used. The anticipation interval was held constant and the inspection interval varied to test the hypothesis that the performance of older subjects would suffer more than that of younger subjects when the time allowed to review the stimulus-response pair was limited. Furthermore, it was conjectured that if the predicted deficit was due to difficulty in concentrating or focusing upon the materials at a fast pace, then the age difference should be reduced if subjects were given the opportunity to accustom themselves to the experimental situation, in other words, to form a learning set. Therefore, each subject successively learned six different lists of paired associates.

The subjects were forty women, twenty in their thirties and twenty in their sixties, all recruited from women's religious organizations through the technique of offering to pay the organization a nominal sum for each member participating. Older and younger subjects did not differ at the .05 level of confidence either in mean score on a twenty-item vocabulary test, nor in mean number of years of schooling. The average subject had finished high school and had some post-high-school training, such as business school, nurses' training, or some college. The younger women were all housewives and mothers active in parochial school activities, while the older for the most part were either currently employed or recently retired from clerical types of work. In summary, both the older and the younger subjects were active, involved, community-dwelling individuals of a reasonably high educational level.

Subjects were randomly assigned to one of two conditions of presentation of six twelve-pair lists. In the slow pace condition subjects learned the lists to a criterion of one perfect recitation, or a maximum of nine trials, at a four-to-two-second rate, that is, four seconds anticipation time and two seconds inspection time. In the fast pace condition subjects learned to the same criterion at a four-to-one-second rate. The presentation device was a Stowe memory drum. The pairs of words were all two-syllable adjectives, and the six lists had been approximately equated for difficulty in a pilot study. Nevertheless, two of the six lists appeared equally often in the first and sixth positions of presentation to provide complete counterbalancing of residual inequalities in list difficulty at the end points of the learning sequence. The other four lists were assigned randomly to the second through fifth positions of presentation in such a way that each subject within each age by pace condition learned the six lists in a different order. Thus, the relationship between the groups and the relationship of the first to the sixth list learned were not confounded with residual inequality in list difficulties.

Figure 1 shows the mean number of total, omission, and commission errors in the study of learning set and table 1 gives the results of the repeated measures analyses of variance. Individual comparisons for the measure of total errors showed that the older group at the slower pace and the younger group at the faster pace improved significantly from the first to the sixth list learned, while the other two groups did not change significantly from the beginning to the end of the series. Since the lists did, in fact, differ in difficulty in spite of the pilot work done to equate them, it is not possible to say unequivocally that the sharp improvement shown by all groups but the older at the fast pace from the first to the second position was due solely to learning set formation.

The most unusual finding, for which there is no ready explanation, was that the best-performing group was the older group at the slower pace. As expected, however, the older group at the faster pace was worst, and the two younger groups did not differ substantially, although the younger at the faster pace

Table 1

Summary of Analyses of Variance of Error Measures over Six Lists

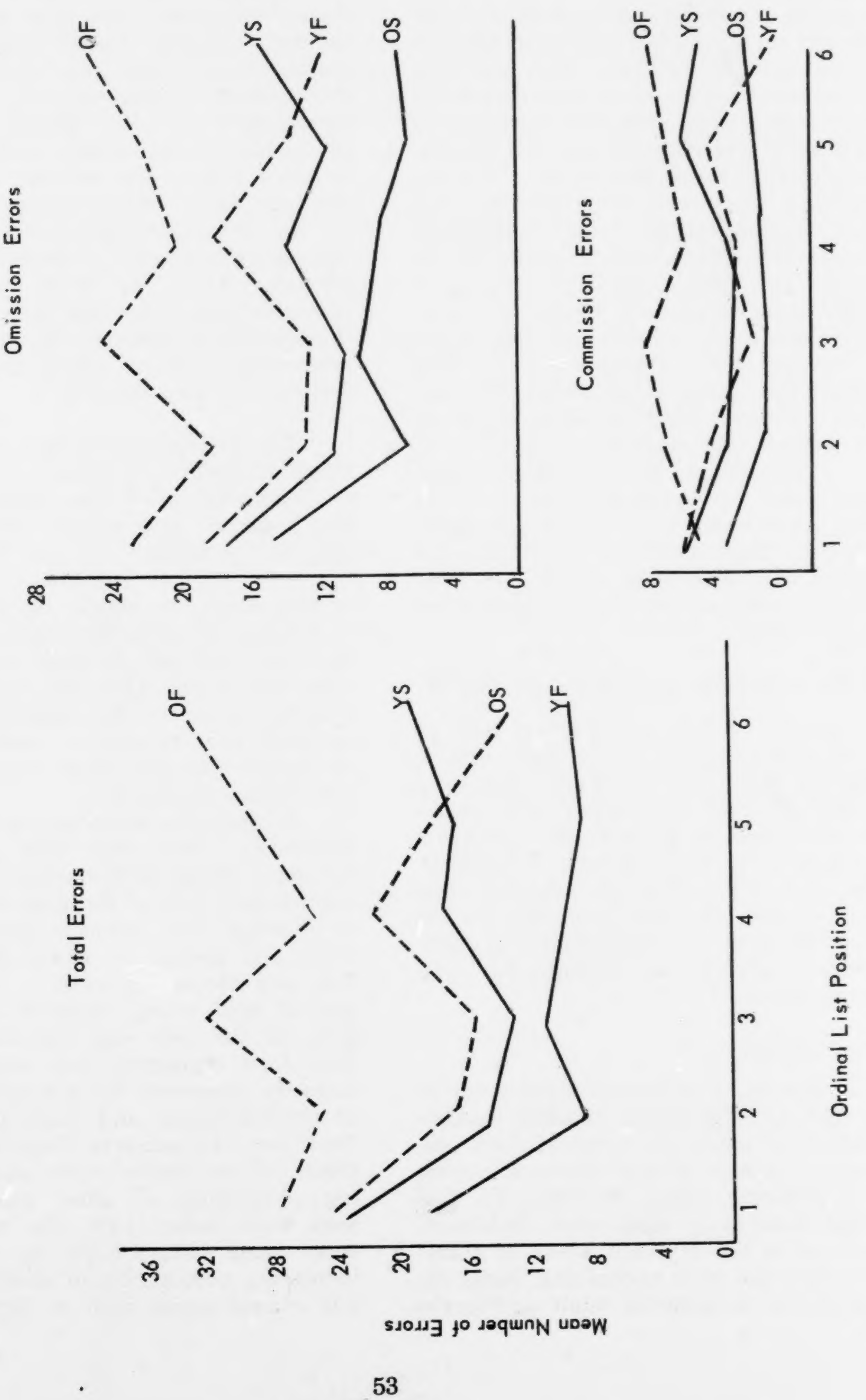
Source of Variation	df	Total Errors		Omission Errors		Commission Errors	
		Mean Square	F	Mean Square	F	Mean Square	F
Between Ss							
Age (A)	1	273.1	<1	199.8	<1	5.7	<1
Pace (P)	1	5078.4	4.6*	3667.5	4.6*	175.1	2.1
A X P	1	4437.6	4.1	2059.2	2.8	451.0	5.3*
Error (between)	36	1091.6		733.2		84.5	
Within Ss							
Lists (L)	5	237.1	3.7**	170.1	3.4**	20.2	1.8
A X L	5	123.2	1.9	55.8	1.1	21.4	1.9
P X L	5	50.7	<1	38.0	<1	8.6	<1
A X P X L	5	154.7	2.4	72.2	1.4	17.6	1.6
Error (within)	180	64.0		50.7		11.2	

Note: All figures calculated to two decimals, rounded to one. Means and variances for total and omission errors were correlated; however, there was no change in locus of significance after square root transformation of raw scores.

*** = p <.05**

**** = p <.01**

Fig. 1: Performance of Ss on six successively-learned lists of paired associates in terms of total, omission, and commission errors. The first letter of the label refers to age (O = Old, 60-69 years; Y = young, 30-39 years) and the second to presentation pace (S = slow, 4:2-sec; F = fast, 4:1-sec).



did perform worse than those at the slower pace at all list positions but the sixth in total and omission errors. Surprisingly, also, the main effect due to age was not significant in any analysis. In accordance with prediction, however, the main effect due to pace was significant and in the expected direction for the total and omission errors.

The reader should be reminded that it was hypothesized that (1) if the faster pace affected the older subjects as predicted, then the deficit might in part be due to an age-related difficulty in concentrating upon the materials to be learned, and 2) giving subjects the opportunity to accustom themselves to the pace, the materials, and the presentation device, that is, to form a learning set, would ameliorate the difficulty. This hypothesis appeared to be borne out for the older subjects at the slower but not at the faster pace. It might be conjectured that the older subjects at the faster pace did, indeed, form a learning set, but that they learned something other than what the experiment intended. That is, after a list or two they learned that the easiest way out of the situation was simply to wait out the maximum nine trials, responding only to those items that came easily. A follow-up experiment might be done profitably comparing the conditions of this experiment with a condition in which subjects are instructed that they must reach criterion.

PRESENT STATUS AND THE FUTURE

This portion of the presentation will be devoted to summarizing plans and accomplishments of the Syracuse project and to a brief review of some interesting side issues that have developed since the original proposal for the program of research was formulated. As noted earlier the research program has two major aspects, the first involving the determination of adult age differences in cognitive abilities, educational background, and learning orientation.

Cognitive Abilities

It was decided at the outset of the research program that an exploration of adult intellectual functioning might be accomplished profitably with a number of tests utilizing a wide variety of different types of items. To this end several vocabulary tests were fashioned, each designed to tap different areas of everyday knowledge and each containing items designed to appeal to different adult age levels.

The original forms went through a preliminary analysis that resulted in the temporary shelving of some of the tests due to poor item characteristics. Those shelved for possible later reconsideration dealt with arts, pastimes and hobbies, sports, fashions in attire, and current affairs.

The six tests retained for further immediate development were those which dealt with finance, religion, transportation, life termination, slang, and new words. These tests were revised to exclude weak items and were administered to 151 adults recruited from community organizations and to 161 adults recruited from adult students enrolled in the graduate school of education. The latter were, for the most part, teachers in service working part-time toward permanent teaching certificates. While the main purpose of this administration was the assessment of item characteristics without regard to age, some interesting data on adult age differences in performance were revealed.

The transportation test concerned knowledge of vocabulary related to various modes of transport, from the horse-and-buggy era to jet aircraft and rockets. The subjects were split at the median on age, 30.5 years. Total scores for the two age groups were compared. A very small but highly significant difference was found, favoring the older group. It should be noted that the graduate students, presumably the better educated, bulked disproportionately large in the under-thirty group. It appeared that experience, rather than formal education, was the more important factor in performance on this test.

Analysis of the slang test was handled differently. This test was constructed by sampling slang dictionaries, which gave an approximate date of the first use of the words or phrases. The subjects were divided into three age groups — under thirty, thirty to fifty, and above fifty years — and the percentage of each group correctly answering each item on the test was calculated. The items were then segregated into two groups, those correctly answered by increasing proportions of older subjects, and those increasingly difficult for older subjects. Happily for the hypothesis, of the twelve items passed by increasing proportions of older subjects, ten first were used before 1950, the median date of entry being 1922. Of the ten items failed by increasing proportions of older subjects, only one entered usage prior to 1950. It should be emphasized that this was an informal analysis of. data which had been gathered for quite another purpose — specifically, for the assessment of item quality independent of age of subject — but the results were most heartening.

The original hypothesis guiding the construction of the items for the life termination test was that familiarity with certain kinds of illnesses and with death would be greater among older than among younger adults. Again, as with the transportation test, subjects over thirty obtained a slightly higher, but statistically significant, mean score than did subjects under thirty. Again, this was true despite the fact that the younger group had a disproportionately larger number of graduate students.

The finance test yielded results similar to those obtained for the transportation and life termination tests. Those over thirty scored significantly higher in average total score, a not unexpected result if one assumes that older individuals have had more experience in the management of money and property.

At this point, two of the six tests entering the analysis were temporarily shelved. The religion test was found to be too difficult for subjects, regardless of age. The items were highly intellectual in nature, asking questions about religions such as Islam and Shintoism as well as Judaism and Christianity. The test will be reconstituted since there is evidence indicating age-related shifts in religiousness. The other test shelved was the new words test because of an inability on the part of the experimenters to characterize its content objectively. It had been constructed by sampling the "Addenda" to the *Merriam-Webster Third New International Dictionary.* A new test is being constructed from a list of words that appeared in the Third New International but did not appear in the 1909 edition. The list was constructed from a stratified random sample of the pages of the two dictionaries.

Plans for the future in the area of cognitive abilities include continued development of these special vocabulary tests, construction of additional vocabulary tests and other types of tests, and a continuation of development of a short but reliable vocabulary aptitude test with two equivalent forms.

Educational Background

As noted earlier, the major instrument for the collection of data on the educational level of adults of various ages is the *Adult Basic Learning Examination,* which contains subscales relating to arithmetic computation and problem solving, reading comprehension and memory for what has been read, spelling, and vocabulary. In late January, 1969, a form of the ABLE (Level III) was administered together with several tests from the Syracuse project, and biographical data was obtained on over five hundred individuals of both sexes, ranging in age from the late fifties to the late eighties. At the time this paper was prepared, no analysis of the data had been done. Arrangements are being made to collect similar data from union members, adult trainees in a technical institute, and adults enrolled in continuing education programs, filling out the sample with adults of all ages from the twenties through the eighties.

Learning Orientation

Plans are underway to begin data collection in the area of learning orientation in the near future, using either the instruments created by Ingham and by Litchfield, or modifications of these instruments.[16] A review of the literature is in progress in this area to determine the approach to be taken.

Experimental Studies

The second major aspect of the Adult Development Study is the experimental investigation of the interaction of age with various personal characteristics in determining learning and performance. Two experiments, one on the effects of the manipulation of social stress on performance of cognitive tasks, and one on learning sets and age, have already been described. A brief description of other experimental work follows.

In a dissertation research project recently completed in the Syracuse laboratory, Hultsch investigated the ability of males of different ages to organize material to be recalled.[17] A sixteen-trial free-recall task was given to males aged sixteen to nineteen years, thirty to thirty-nine years, and forty-five to fifty-four years. Subjects (Ss) were required after each trial to write down as many of the twenty words presented as they could recall. Three instructional conditions were used: (1) the Ss just were asked to recall as many words as possible; (2) it was suggested that recall would be easier if the words were organized in some unspecified way; and (3) Ss were told to alphabetize the words as an aid to recall. Hutsch found that the older Ss recalled fewer words than the high school seniors, although no difference was noted between the two older groups. Furthermore, with the alphabetization instructions those of all ages performed best, but the interaction of age and instructions was not significant. Thus, although the older men did not recall as much, what they did recall was as well-organized as the recall of the younger Ss. The older men were, in other words, as able as the younger to use either their own or an instruction-induced organizational scheme.

In a later reanalysis of the data, Hultsch divided each of the three age groups into two subgroups on the basis of their scores on a vocabulary test, and looked at the free-recall performance of individuals with high as opposed to low verbal facility.[18] In this re-analysis he found no significant age differences among the high verbal facility groups, nor were there differences due to instructional condition among these groups. However, a significant age and instructions interaction was detected in the low verbal facility groups. Under both the standard instructions and organizational instructions conditions, the high school boys recalled more words than the two older groups, which did not differ from each other; however, no age differences were detected among subjects performing under instructions to alphabetize their recall.

The presence of an age decrement in the case of low verbal facility individuals, but not among high verbal facility people is quite interesting, particularly since it becomes apparent at a comparatively early age, that is, between, the late teens and the age of forty. Why this should be so is difficult to determine. It does appear, however, that at least part of the age-related decrement in recall performance was attibutable to an age-related decrement in organizational processes. It may be that providing people of lower verbal facility with a method of organizing material to be learned and recalled reduces age decrements in performance. Hultsch is presently following up on several suggestions produced by this research.

While the Syracuse study has no further data comparing different age groups at the time of this report, some of the pilot work done shows promise of illuminating the interaction of age and performance further. As has been mentioned in passing, it has been the practice in this project to run pilot studies using as subjects adults enrolled in courses in the late afternoon and evening division of the graduate school of education. These graduate students are, of course, people of higher-than-average intelligence and educational attainment, and their ages form a positively skewed distribution. The median age is roughly twenty-five, the mean about thirty, and the oldest ages represented rarely are greater than fifty to fifty-five. Nevertheless, some indications can be obtained as to the usefulness of the experimental manipulations and measures, thus saving the harder-to-come-by community-dwelling adults for refined investigations.

One study using graduate students as subjects tried to take advantage of the life-long habits of people to read from left to right and to observe the results of reversing the process. In the pilot study the students learned a list of paired associates in the usual fashion, stimulus presented on the left and response term on the right. Another group of students learned the same list with the stimulus and response terms reversed in position, in other words, arranged from right-to-left. A difference significant at the .05 level favoring the left-to-right group in mean number of trials to criterion was found. This task is presently being used with adults varying widely in age to test the hypothesis that older people will find it more difficult than younger adults to overcome the left-to-right habit.

Work earlier done on age differences in learning set development is also being followed-up. One study currently in progress is examining the hypothesis that a subject's apprehension or anxiety about participating in a learning situation is, in part, a function of the difficulty of the task. Furthermore, it is hypothesized that the older the adult, the greater will be the disturbance produced by a difficult as compared to an easy task. Thus, learning set development will be slower if it is accomplished by exposure to more difficult materials, and especially slower in older adults. The experimental approach is to expose half of an age group to three difficult list of paired associates, followed by three easy lists. The other half of each age group will learn the three easy list first and then the three difficult lists. The specific predictions are that: (1) the learning rate of the older subjects more closely will approximate the rate of the younger subject on lists later in each series than on lists earlier in that series, (2) the improvement in learning rate over each of the series will be greater for the older subjects than for the young, and (3) these differences will be accentuated in the learning of difficult over easy material. Of course, the first two comparisons above represent two ways of assessing the same outcomes.

In the experimental area, major future goals are related to the three main hypotheses earlier articulated. Plans have been laid to investigate the effects of various kinds of stress, of favorable, unfavorable, and neutral attitudes, and of previous experience or learning sets on the learning and performance of adults of different ages, sexes, and socioeconomic backgrounds.

Thus far, the experimental work has not been concerned with verbal materials of a very high degree of complexity. Future work will have little concern, except incidentally, with standard laboratory apparatuses and verbal material such as memory drums and paired words. Sentences, short paragraphs, and longer passages of verbal materials have been constructed to use in learning and performance tasks. In short, plans are to move closer and closer to the kinds of learning tasks faced in real life by real adult learners, while at the same time exercising control over the experimental and personal variables indicated by the hypotheses.

CONCLUDING REMARKS

The findings of the Adult Development Study hopefully will help to dispel the feeling of hopelessness exemplified in the saying, "You can't teach an old dog new tricks." There is evidence to suggest that this is an attitude held both by those engaged in working with older adults and by the older adults themselves. There are, unquestionably, losses with age in factors associated with performance, such as in acting or reacting in situations requiring the overt display of acquired knowledge. There is, however, no good evidence at this time to indicate that the fundamental ability to learn decreases until very late in life. There is certainly no evidence for decline in this basic ability during the normal working years — up to and including the middle and late sixties — for most people.

It must be realized that an individual's expectations are powerful determiners of both his behavior and the behavior of those he influences. This has been graphically demonstrated by Rosenthal in his work with elementary school teachers and their students, and even with research psychologists expecting certain kinds of performances from animals.[19] In one experiment Rosenthal and Jacobson divided a group of elementary school pupils into two subgroups.[20] The pupils in one group identified to their teachers as children who were about to bloom intellectually. The other subgroup was equally qualified but was not specially identified to the teachers. At the end of a few months it was found that the "bloomers" had, indeed, showed increases in achievement significantly greater than the control subgroup. The preferred explanation for this finding was that the teachers expected the specially-marked children to bloom and that through their interactions with these children they had subtly, and perhaps not-so-subtly, communicated their expectations to the children and had provided an environment that had stimulated and supported the children's efforts.

A possible message for those involved in adult learning is that expectancies should, at the very least, be realistically based and, in appropriate circumstances, biased to favor a desirable outcome. It is the scientist's business to determine the shape of reality, but it's the educator's business to reshape reality. Thus, the scientist's expectancies must be controlled, but the educator is free, within the limits of good conscience and good sense, to mold expectancies in order to further educational and personal development. It should not be necessary to point to the potential for mischief and misfortune inherent in unethical or ignorant manipulation of expectancies, however. Everything is moderation!

To summarize, what one expects of the "old dog" confronted with a "new trick" may be as important as the technique one uses for teaching him the trick. It is the expectation of the Syracuse research group that what is learned about the capabilities and limitations of adults of various ages will give adult educators a foundation on which to base, and a bias for, their expectancies for their students.

NOTES

The Syracuse University Adult Development Study is funded under U.S. Office of Education Grant No. OEG-1-7-061963-0149, Project No. 6-1963.

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13. Billey Levinson and Hayne W. Reese, *Patterns of Discrimination Learning Set in Pre-School Children, Fifth Graders, College Freshmen, and the Aged,* Monograph of the Society for Research in Child Development, no. 115 (Chicago: University of Chicago Press, 1967).

14. *Ibid.* pp. 57 and 59.

15. Rolf H. Monge, "Adult Age Differences in Paired Associate Verbal Learning Set Foundation" (Ph.D. diss., Syracuse University, 1967).

16. Ingham, "Leisure Satisfactions;" Litchfield, "Adult Education Activities."

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18. David F. Hultsch, "Adult Age Differences in the Organization of Free-Recall," *Developmental Psychology* 1 (1969): 673-678.

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ADULT DEVELOPMENT

Jack Botwinick

This discussion covers issues relating both to problems of research in gerontological psychology and to the findings of such research. Under the heading Aspects of Research, research growth and methodology are considered. Under the heading Aspects of Man, intelligence, speed, learning, perception, and personality are discussed. A very brief summary is given in conclusion.

ASPECTS OF RESEARCH

Growth

Anyone who has tried to keep up with the published literature on aging must have a sense of apprehension, a growing feeling that a day soon will be reached when his effort will be futile. The day is almost at hand when it is possible to keep abreast of only the most specialized of interests.

Figure 1 tells part of the story. We are currently collecting and selecting references for a chapter in the *Annual Review of Psychology.* As the name suggests, it is a once-a-year publication in which different substantive areas in psychology are covered. Not all areas are reviewed annually, however. *Gerontology,* for example, has been reviewed approximately every five years beginning in 1951. The remarkable record of growth in research seen in figure 1 is even more impressive when it is realized that the review by Shock, covering the period January, 1947, to June, 1950, included many older key references.[1] The number of references published during the period of Lorge's review was probably greater than that published during the period of the review by Shock, although figure 1 does not reflect this.[2]

Figure 1 may provide a broad view of the growth in research, but the specific counts of the numbers of publications from review to review may be spurious and misleading; for example, the reviewers may well have had varying interests and criteria in selecting the references. If they did, the extensity of research, as contrasted with the actual number of publications, may be reflected in figure 1. Also, the references were listed differently: Chown and Heron, in listing 252 references,[3] indicated that the amount of literature within the five-year period covered by their review kept pace with the amount during the previous five-year period, reviewed by Birren.[4] Birren listed 378 references. In spite of these considerations it is difficult not to be impressed by the trend line seen in figure 1. Extrapolate the curve and pity the poor reviewer of 1975. Gerontology chapters now need to be reviewed every year or at least every other year.

Method

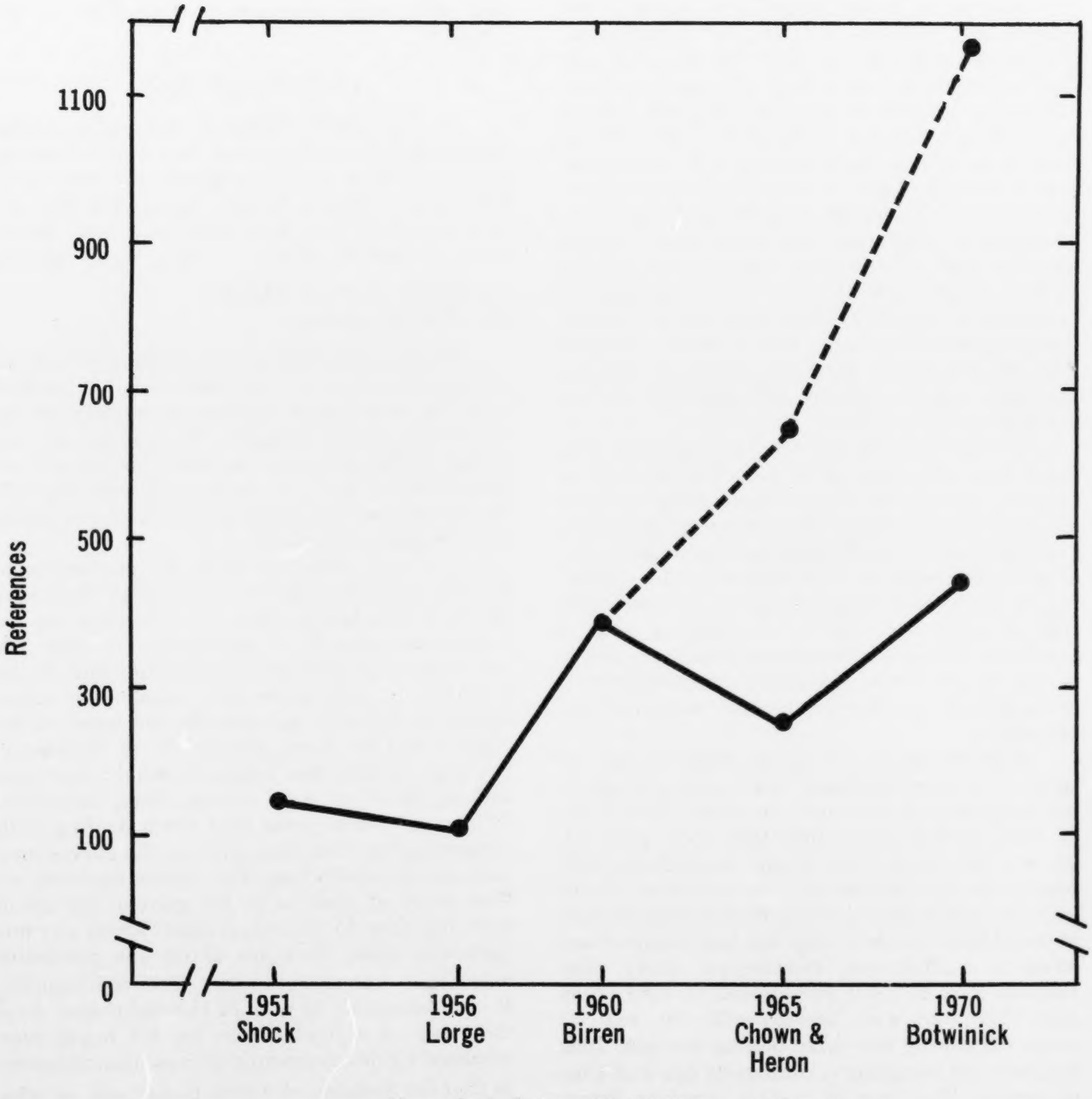
Were the studies represented in figure 1 carried out with the best possible experimental methods? Most studies of aging involve the comparison of two or more age groups. This cross-sectional method has received much criticism in recent years, mainly on three counts: (1) the method does not permit following a single person over time; (2) more often than not, there is a systematic bias in the types of people sampled across the age range; and (3) the cross-sectional method reflects cultural changes as well as age changes since there is greater exposure to new information, more opportunities to learn, and different methods of solving problems from one generation to the next. When a comparison is made between a twenty-year-old and a seventy-year-old, the comparison involves these generational differences. All three criticisms are correct.

When criticism is leveled at the cross-sectional method, the solution that is most typically offered is the longitudinal method. The longitudinal method involves testing the same subject with the same tests periodically as he ages. The period between tests usually is a matter of years. The longitudinal method has much to recommend it, but it is no panacea. It is only partially effective and does not necessarily control for all cultural changes. In addition, as will be seen, it reflects artifacts of testing and current environmental factors.

One often hears it said that cross-sectional

Figure 1

The number of cited references in the reviews of adult aging of the Annual Review of Psychology. Solid lines represent actual counts, except for the 1970 review which is a close estimate. Dashed lines represent approximations of the minimum number of published reports which needed to be examined, and which could have been listed.



studies show age decrements in performance and longitudinal studies do not. This is questionable. A careful review of longitudinal studies of intelligence suggests that while most of the investigators concluded from their results that there was little or no age decrement in intellectual function in later life, the available data indicated otherwise.[5] The data based on people of average intelligence have shown, in general, what cross-sectional data have shown, but with less pronounced decline.

A study by Riegel, Riegel and Meyer is enlightening.[6] They gave a variety of psychological tests to 380 subjects over fifty-five years of age. They retested five years later and some subjects refused to cooperate by being tested again. Others died or became ill and could not be tested. When those subjects who were retested were compared with the total group, they were found to be significantly better. The authors concluded: (1) developmental trends are based upon increasingly biased samples, and (2) previous longitudinal studies have underestimated the amount of this drop-out in subject availability. Their conclusions suggest that longitudinal data, as well as cross-sectional data, do not reflect the total extent of decline. Typically it is the initially less able who are not available for later retest.

Is there any method that is foolproof? No, there does not seem to be one, but there is a grouping of methods which is more adequate than any one method alone. This grouping combines cross-sectional, longitudinal, and one other type of group comparison. Unfortunately, this grouping of methods is impractical, or at least difficult, to carry out, but it provides us with a standard. Schaie developed this approach and it is one of the most important contributions to methodology in developmental research yet offered.[7]

Schaie's approach is as follows: Let us carry out a cross-sectional study and arrange to test subjects who were born in either 1920, 1910, or 1900. In this year, 1969, they were aged 49, 59, and 69 years. This group comparison confounds age and the effects of generations of culture. The study should be planned so that the test of the oldest sample is also the last longitudinal retest of a three-step, twenty-year study. The subjects born in 1900 were tested in 1969, 1959 and 1949, and were therefore 69, 59, and 49 years old during the three testing periods. This longitudinal comparison confounds age and time of testing. The time of testing involves errors of measurement due to factors such as changes in the tester and in test-situation environments. Then make the last group comparison. If during 1969, 1959 and 1949 only subjects ages 69 years were tested, they would have been born in 1900, 1890 and 1880 respectively. This group comparison does not involve age, it simply confounds effects of culture and time of testing. Schaie's analysis permits comparison of the relationships involving age effects, culture or generational effects, and test environment or errors of measurement effects. Since each group comparison involves a different two of the three contributing sources of variation, the confounding normally seen with each comparison alone may be untangled.

ASPECTS OF MAN

In this paper reference to young adults usually means people in their twenties, extending into the thirties and dipping into the late teens. Reference to elderly people, the aged or the old, usually means sixty-five years and over. Sometimes it means people in their early sixties.

Intelligence, That Which the Test Measures

It was said that developmental growth curves, determined either by the cross-sectional method or by the longitudinal method, are based upon increasingly biased samples of subjects as one moves up the adult age periods. The initially superior tend to survive and be available for late-life testing, and the initially inferior die or otherwise become unavailable.

The fact that over time the proportion of initially superior subjects in the sample increases becomes disquieting when one examines the developmental curves of intelligence in later life and finds that they are curves of decline. If the initially less able were more adequately represented in the older age groups, the trend of decline would be even greater. It is necessary, however, to keep two issues in mind when considering developmental curves. First, individual differences are so great that when dealing with persons rather than with groups, the curves may actually be misleading. The curves probably reflect much of what is in the general nature of man, but they do not reflect much about any one particular man. To know about one particular man, it is necessary to test him individually. *It is not possible to predict the individual from the group.* A second reason for not being overwhelmed by developmental curves of intelligence is that the decision of which test to use, or what items to include in constructing a test to measure intelligence is crucial. Intelligence is in part defined by decisions about tests, and the age changes in intelligence are measured by those tests. For example, Demming and Pressey reported results of a test based on practical tasks in which they tested subjects on the use of the yellow pages of a telephone directory, on common legal terms, and on obtaining services needed in everyday life.[8] They found a *rise* in scores through the middle and later years with this test, even when the subjects declined in their test scores with the conventional tests.

Demming and Pressey's results demonstrate that not all functions decline with age. Moreover, those functions that do decline do so at varying rates. Developmental curves of adult intelligence based upon the Wechsler tests (1944, 1948) clearly show a varying rate of decline. Each version of the Wechsler test comprises eleven subtests, and each of these subtests reflects a different rate of change with age. To examine this variation comprehensively, the results of ten aging studies based upon the Wechsler tests were combined.[9] In each of the ten studies the subtests were ranked to show how elderly subjects performed on them. In this report, 11 represented the best score and 1 the poorest score; for example, if in one study a group of elderly people were found to have performed best in the vocabulary subtest, vocabulary would be ranked 11. If in another study the subjects performed second best in vocabulary, it would be ranked 10. The mean rank of vocabulary, combining these two studies, would be 10.5. The results of this analysis may be seen in figure 2.

Figure 2 shows that the subtests Information, Vocabulary, and Comprehension are the three highest ranked and Block Design, Picture Arrangement, and Digit Symbol are the three lowest ranked. These rankings are remarkably similar across the ten studies. They reflect what has been referred to as "the classic aging pattern." A group of functions referred to as "verbal" hold up with increasing age, and a group of functions referred to as "performance" do not. However, performance is a poor term since all assessment is based on some aspect of behavior, including verbal performance. Not only do functions such as vocabulary seem to hold up with age, but in very bright people vocabulary scores have been found to improve with age.

What do the top and bottom ranked subtests seen in figure 2 measure? When similar data were examined with the highly mathematical technique of principal component analysis, Birren, Botwinick, Weiss, and Morrison suggested that tests similar to the three top-ranked subtests in figure 2 measure achievement and tend to be related to general experience in our culture.[10] This achievement and experience can be regarded as stored information. Performance tests, such as the bottom three in figure 2, seem to measure manipulative skills, perceptual functions, and the processing of new information.

Speed of Response Involves Attentive Expectation

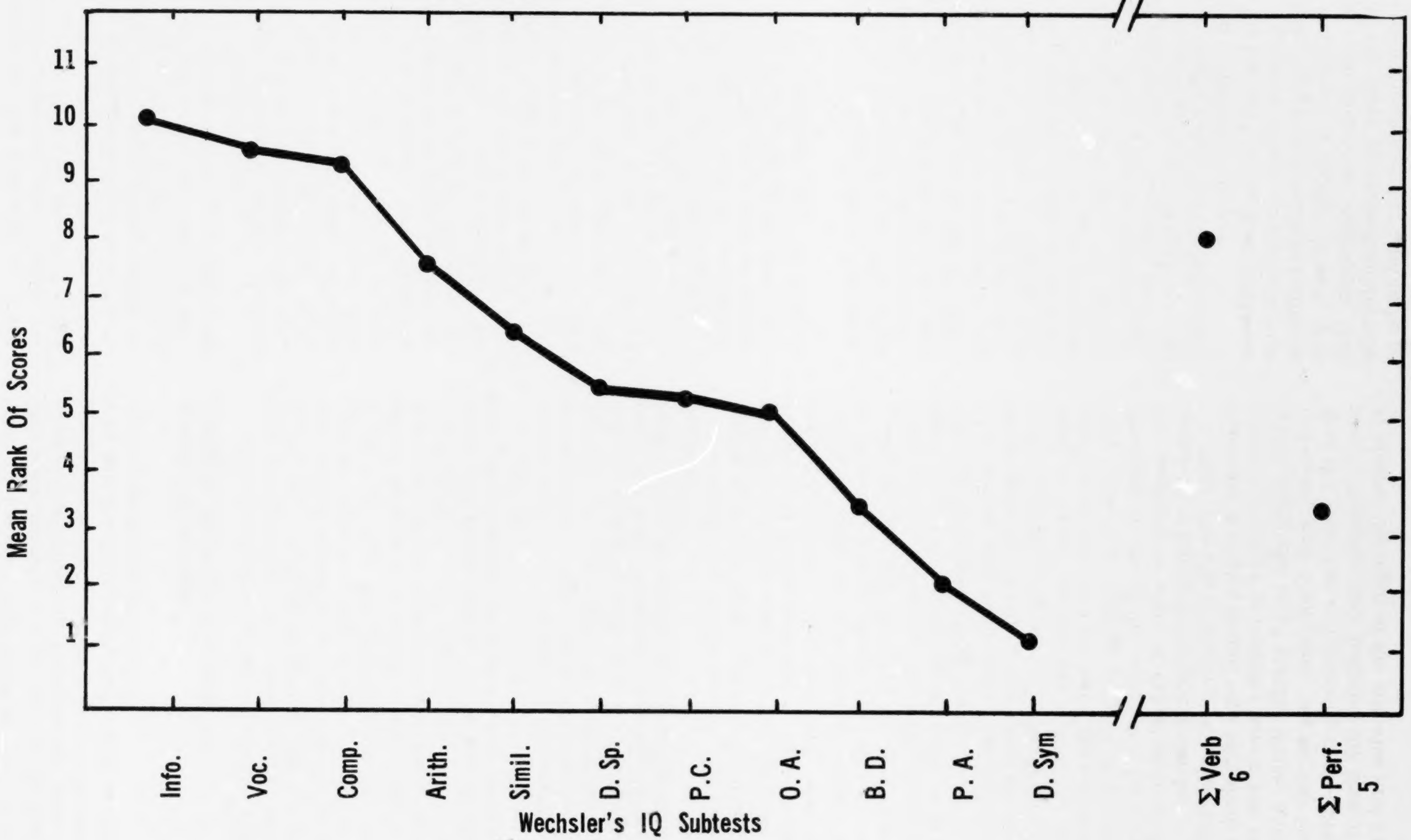
The specific procedures involved in the subtests listed in figure 2 involve speed of responding for the bottom-ranking tests but not for the top-ranking tests. This observation led to a controversy regarding the significance of loss of speed in old age. One extreme held that the observed slowing is a matter of the muscles only and thus is of no consequence to cognition. Psychometrically, it was argued, speeded tests are unfair and inappropriate for testing the elderly. The other extreme held that speed of response is a reflection of central nervous system functioning and as such is crucial to cognition. Proponents of the latter view held that speeded tests are not only appropriate in testing the elderly, but are desirable and necessary. This controversy has been discussed in greater detail in a different report where still a third view was described.[11]

Doppelt and Wallace gave the Wechsler test (WAIS) both with and without time limits, and the age patterning of scores was essentially the same in both conditions.[12] From a psychometric viewpoint, therefore, the controversy centering upon speeded tests no longer seems of great importance. From the point of view of understanding the loss of speed, however, questions remain. What are the antecedents of the loss? Does the loss of speed affect skills and other performances? Most studies seem to show that slowing with age is more than just a matter of the muscles. It still is not clear whether the loss of behavioral speed is a reflection of slowed rates of neural conduction within the central nervous system. Studies have shown, however, that behavioral slowing may be a function of transient states of the responder; for example, the readiness or state of expectation of the responder determines how quick he can be.

The literature relating to the issue of readiness is extensive and very technical, and it is only necessary to describe here a few studies which highlight main points. Weiss, and later Botwinick and Thompson, segmented reaction time (RT) into two component parts — premotor time.[13] Premotor time includes the time it takes to process the input of the stimulus and to asso-

Figure 2

Ten studies were examined in which elderly subjects were tested either with the Wechsler–Bellevue (W–B) or the Wechsler Adult Intelligence Scale (WAIS). The eleven subtests in each study were ranked on the basis of performances; a rank of 11 indicates best performance by the elderly, and a rank of 1 indicates worst performance. The mean ranks of the ten studies are seen here in relation to the eleven subtests. (This graph was based on the data of Table 1 of Botwinick, 1967).



ciate this input with the appropriate behavior. Motor time is essentially the peripheral, muscle portion of RT. Elderly adults were found to be slower than young adults in both the premotor and motor components of RT. The premotor component was regarded as the more important because it constituted approximately eighty-four percent of the total RT, and because it parallelled RT in its relation to an experimental manipulation of states of attentive expectancy.

Attentive expectation of an environmental event — that is, stimulus — permits the responder to get set and respond quickly. Conversely, when a person is surprised by the stimulus, either because he did not expect it or because he expected its arrival at a different point in time, he responds slowly. RT is fastest when the conditions of anticipation or expectancy are optimal; RT is slowest when conditions do not favor accurate expectancy.

In a RT study the conditions of expectancy are manipulated by the preparatory interval (PI), which is defined as the duration of time between a warning signal and the stimulus indicating the need for response. If the PI is the same from one RT trial to the next, it is called "regular," and if the PI is varied from one RT trial to the next it is "irregular." The extent to which elderly and young people differ in speed of response depends not only upon whether the PI is regular or irregular, but upon the specific time duration of the PI; for example, figure 3 demonstrates variations in RT of men responding to a visual stimulus with regular PIs. It can be seen that when the PI is long, that is, 6.0 seconds, the difference in RT between old and young is nearly twice that when the PI is short, that is, 0.5 second. One reason for the difference of RT with length of PI by age is that with longer periods of sustained expectation, attention and concentration are taxed. It is with the taxing of attention that the elderly perform particularly poorly. It can be seen that even with a task as relatively simple as speed of response, the age pattern varies as a function of context. Not all situations reflect slowing to the same extent; some contexts maximize the extent of slowing and some minimize it, although almost all situations reflect some slowing.

Learning — Process and Act

The importance of slowing with age depends upon the extent to which speed is involved in a particular act. It is often overlooked that what is commonly called "learning" involves some behavioral expression which in itself is not learning; for example, one must speak or do something to demonstrate learning. If loss of speed is reflected in the speaking or doing and this makes performance poor, it does not mean that the learning itself is poor. Psychologists emphasize the distinction between learning (the process) and performance (the act expressing the process). In the analysis of learning in late adulthood much effort has been directed to the questions of whether learning itself falls off with age, or whether it is only the learning performance that does.

Laboratory studies dealing with the problem of learning versus performance have involved simple rote tasks of paired-associate and serial verbal learning. In paired-associate verbal learning the experimenter presents a series of paired words to the subject who must learn the pairing. Preceding each pair in the list, the first word of the pair (the stimulus word) is presented by itself. When the pairing is learned, the subject is able to anticipate and supply the second word (the response word) without further information.

Canestrari varied the time period between word pairs so that he had three pacing or speed-of-stimulus-presentation conditions.[14] He had a fast-paced condition in which each word pair was exposed for only a brief period of time with a similar brief period before the next word pair appeared. Fast pacing made the task one of assimilating rapidly changing information. Canestrari also had a condition involving slower pacing and one in which the subject paced himself. In the self-paced condition the subject controlled the apparatus to get as much time between word pairs as he desired. Canestrari found that the largest difference between an elderly group and a young-adult group occurred in the condition of fastest pacing, and the smallest difference between age groups occurred in the self-paced condition. The results of this study may be seen in figure 4 in terms of errors in performance. Figure 4 demonstrates that a large proportion of the poor learning performance seen in advanced age may be accounted for by loss of speed, rather than decreased learning ability as such. However, it may also be seen in figure 4 that the performances of the elderly were poorer than those of the young in all three conditions of learning, including the condition of self-pacing. A learning disability in the aged cannot, therefore, be totally ruled out on the basis of these data.

Arenberg carried out two studies, the first of which was similar to that of Canestrari. His second experiment was more complicated but also more informative.[15] Arenberg had elderly

Figure 3

Reaction Time (RT) as a function of the preparatory interval for two age groups. It may be seen that the difference between age groups in RT was greater with the longer interval than with the shorter. (The graph was drawn from information seen in Figure 3 of Botwinick, 1965a.)

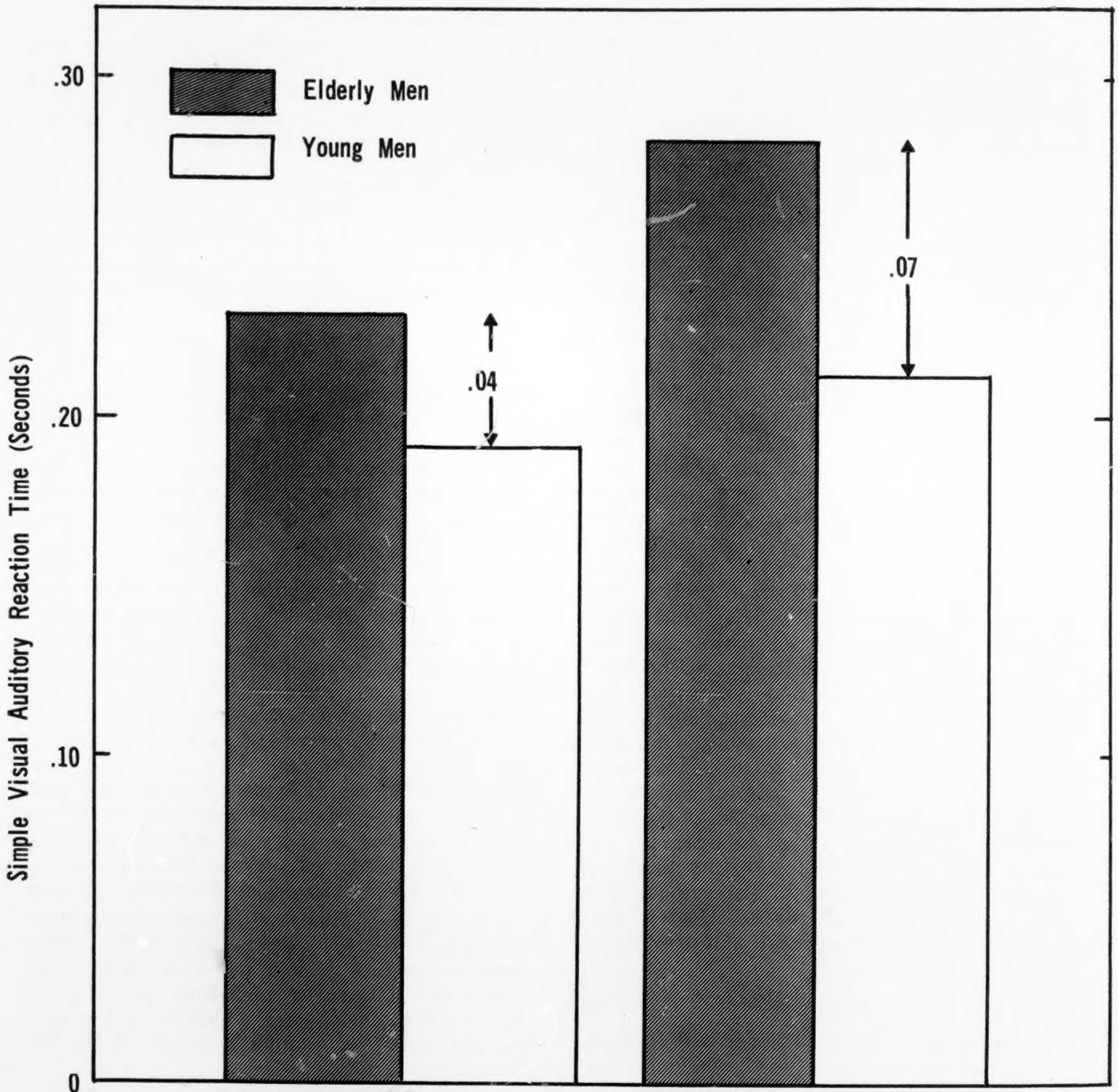
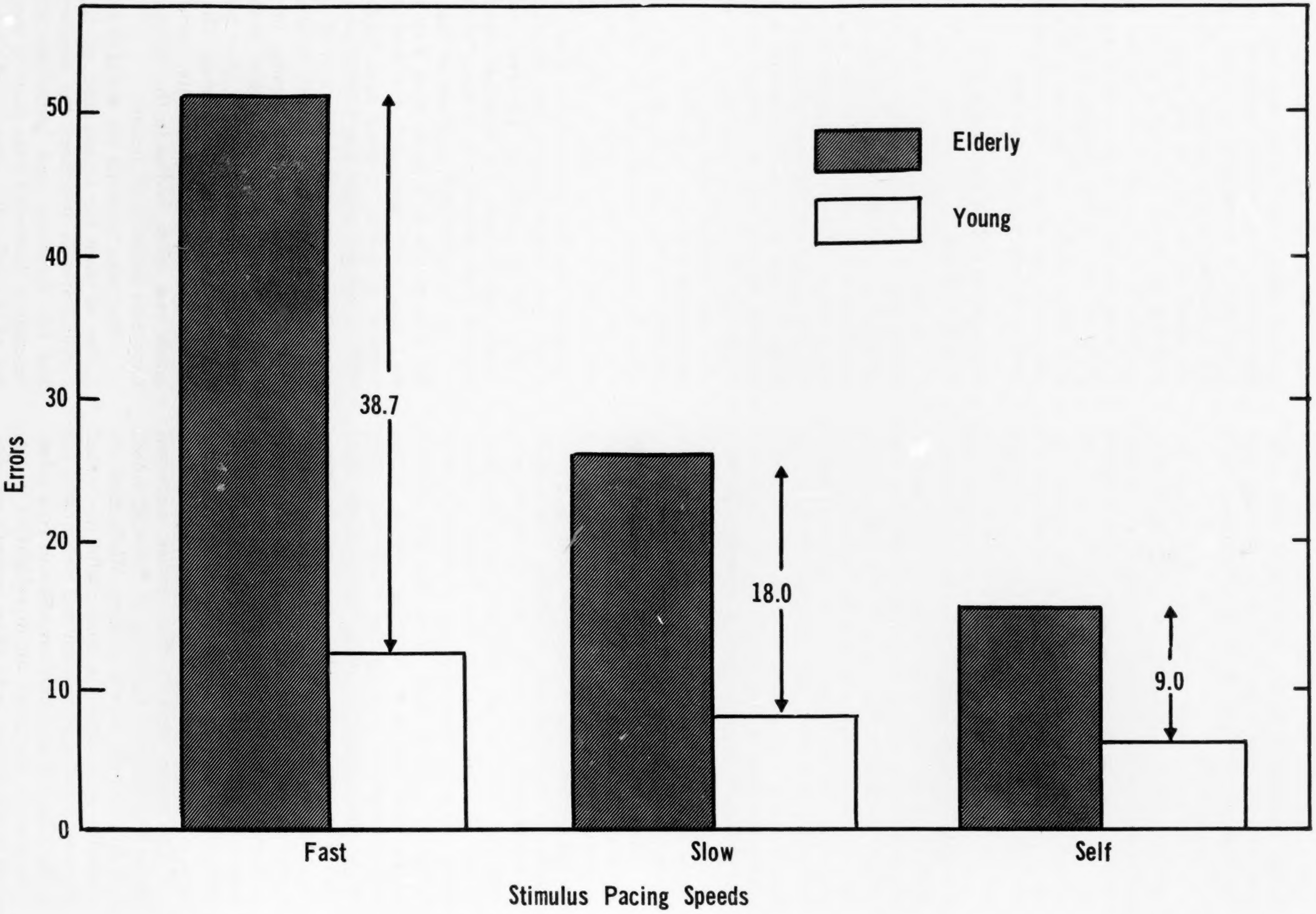


Figure 4

Errors made in learning paired-associate verbal material as a function of three speeds of presenting the material. It may be seen that the elderly adults were aided appreciably by slowing the speeds and by permitting them to control the tempo of the experiment. (This graph was based on Table 1 of Canestrari, 1963).



and young adults learn paired words using a procedure in which paced and self-paced trials were alternated. One group of each age experienced fast-paced trials alternated with self-paced trials, and a second group of each age experienced slow-paced trials alternated with self-paced trials.

The major test in Arenberg's study involved a comparison between learning on the self-paced trials which followed the slow pacing and learning on the self-paced trials which followed the fast pacing. If the older subjects had poor scores during the fast-paced trials simply because of an insufficient time to respond and not because of poor learning, then their performance during the subsequent self-paced trials would be good. On the other hand, if the older people were not able to learn during the fast-paced trials, then their performances would be poor during the self-pacing which followed. Arenberg's results showed that the scores of the older group, as compared with the younger group, were poorer in the self-paced trials which followed the slow-paced ones. His conclusion, therefore, was that the poor performance of the old group during the fast pacing could not "be attributed to insufficient time to emit a correctly learned response." Once again speed of response affected the performance of the elderly, but poor learning could not be ruled out.

Eisdorfer, Axelrod and Wilkie tested serial learning performance for the same purpose of distinguishing between the process (learning) and the act (performance).[17] In serial learning, single words are presented one at a time. The subject anticipates the next word in the list and tries to verbalize it before the experimenter presents it to him. Eisdorfer, Axelrod, and Wilkie presented the words to be learned in one of three exposure durations — brief, long, or in between. Elderly adults improved their learning scores as the time allowed for viewing the words was made longer. Interestingly, young adults made their best scores with the middle exposure durations and their worst scores with the longest stimulus durations which tells us something about the preferred pacing of older and younger people. Again, in each condition the scores of the elderly subjects were poorer than those of the younger ones, possibly reflecting a true learning deficit.

The tasks used in the studies described above involved rote learning of material which had no relevance for the subject. What data are available with regard to meaningful life tasks? The number of studies involving meaningful life tasks is limited and they are often of poor scientific quality. The more an investigation is centered in the factory or in other natural settings, the more difficult it is to have proper experimental controls. Shooter, Schonfield, King, and Welford reported that the results of studies in natural settings tend to fall into four categories.[18] To assess competence, workers are either: (1) graded in examinations taken during or at the end of training programs; (2) rated by training staff; (3) marked on the basis of length of training necessary to reach a given criterion of performance; or (4) evaluated by measuring the progress of the work itself when training is given on the job. The authors indicated that the first three types of evaluation tend to show decline with age, whereas the fourth tends to show neither decline nor improvement.

Perception — The Processing of Sense Data

In later life there is a decrease in sensory acuity which diminishes the effective intensity of physical environmental stimulation. Diminishing intensity of stimulation determines in part the world in which older people respond, but if the decrease in acuity does not reach an extreme form, it does not need to present a very great problem. Corrections of sensory acuity can be made, as seen by the increasing use of hearing aids and stronger eye glasses, as people age. Corrections are also made by the tendency in the aged to rely on more than one sense at a time. A famous neurologist, for example, once described his observation that young people tend to drink water from a glass without any apparent visual attention to the glass. The kinesthetic and proprioceptive cues are sufficient to carry out the drinking. However, some older people, particularly the impaired aged, tend to monitor their drinking by a close, visual watch.

An experimental analysis of the tendency for older people to look at what they are doing was made by Szafran.[19] He had industrial workers of widely varying ages locate targets with a pointer under two conditions: (1) when direct vision was permitted, and (2) when the use of goggles made it possible to see the general display but not the targets or pointers. Szafran reported that when older workers were unable to make use of vision, they had special difficulty in locating the targets. They tended to make postural adjustments, turning their heads and, often, bodies in the direction of the particular target to be located.

How man patterns his world is not only a matter of what his senses pick up. His central nervous system processes the sensory inputs, and his decisions and behaviors reflect this processing. Szafran's data may be more revealing of the difficulty older people have in processing inputs than of their disability in peripheral sensory functioning. When a stimulus input is ambiguous or weak there are relatively large individual differences in the processing of the sense data. When the input is unambiguous or strong, individual differences in the perception of the input are small. Accordingly, ambiguous or weak stimuli are often used in studies designed to examine individual differences.

Basowitz and Korchin tested a young adult and an elderly group of subjects with two tasks.[20] One task, called Gestalt completion, involved a set of drawings. A portion of each drawing was obliterated and had to be supplied perceptually by the subject. The other task involved finding simple geometric figures embedded in complex designs. Basowitz and Korchin reported that the young group performed each of these tasks better than the elderly group, but of special interest was the kind of error the older people tended to make. They omitted many items altogether. Basowitz and Korchin suggested that the older people may have manifested a type of excessive caution, "a defensive reluctance to venture response for fear of recognizing their inadequacy."

A changing pattern of stimulation was used in another study by Korchin and Basowitz.[21] They compared elderly and young adults on a series of thirteen line drawings. The first drawing portrayed a cat which by successive modifications in subsequent drawings became a dog. The most ambiguous drawing was the seventh in the series — it was as much a cat as it was a dog. The younger subjects changed from "cat" to "dog" near the center of the series and continued with that response. The older subjects tended to shift from "cat" to "dog" later in the series and tended to vacillate more, shifting back to the response "cat" after having reported "dog." These data were interpreted as reflecting susceptibility to novelty and to potential threat in the situation on the part of the elderly.

Korchin and Basowitz's study was followed up by one by Botwinick in which both the cat-dog series and a triangle-circle series were presented.[22] The latter series were comprised of twenty-two photographs of drawings, the first of which was an isosceles triangle and the last a circle. The results of this study conflicted with those of Korchin and Basowitz, but the instructions to the subjects were different. In the study by Korchin and Basowitz the older subjects shifted percepts later in the series than did the young; in the Botwinick study the older subjects shifted earlier in the series. The instructions used in the Botwinick study were more structured than those used by Korchin and Basowitz. Korchin and Basowitz asked the subject, "Is it a cat or a dog?" — that is, the set to shift was not emphasized. They found the older subjects to be uncertain and vacillating In the Botwinick study, the end points of the stimulus series were indicated, the set to shift was clearly given, but the opportunity to vacillate was restricted by the termination of the procedure at the point of shift. With a very structured procedure, there was no uncertainty and, of course, no vacillation. Decisive, early shift of response was made by the elderly. The combined results of Korchin and Basowitz and Botwinick suggested the hypothesis that given appropriate structural sets rather than the opportunity to develop them, the older person will respond with minimum difficulty. The problem becomes difficult for the aged to the extent that a lack of structure, uncertainty, and the need to change patterns of thought are prominent. An alternate hypothesis may be that the instructions emphasizing shift of percepts were more compelling for the old than young. The old may have been more susceptible to the instructional set to shift; they may have feared to fail reporting the change.

The inclination to shift percepts was examined more directly in two very similar studies. In the first, Botwinick, Robbins, and Brinley presented young adult and elderly subjects with Boring's ambiguous figure, commonly known as "my wife and my mother-in-law" which can be seen either as a young woman (wife) or an an old one (mother-in-law).[23] Of those reporting either percept, ninety-four per cent of the elderly subjects reported seeing the "wife" while only seventy-eight per cent of the younger subjects did. Does this suggest the possibility that for the elderly denial of old age was operating to affect their perceptual processes? Although this question was in mind in the second study, both studies had as their central purpose the determination of the equality of effects of perceptual preparation on young adult and elderly subjects in terms of their inclinations to shift from one percept to another.

After the subject reported either "wife" or "mother-in-law," he was encouraged to perceive the alternate percept. If he could not so perceive the alternate percept on his own, he was shown a photograph of an unambiguous version of the percept he could not see; for example, if a subject saw "wife" and could report the alternative percept, he was shown an unambiguous photograph of "mother-in-law." Later, without comment, he was shown the ambiguous photograph again and asked what he saw. The results demonstrated clearly that the older subjects tended to keep seeing the same percept, while the younger subjects easily reported the alternate one. The conclusion from these results was that the elderly demonstrated either a lower ability to form percepts, a greater difficulty in reorganizing percepts when formed, or both.

The second study was carried out to replicate the first, but used a better balanced male version of the ambiguous figure, "my husband" and "my father-in-law."[24] It was thought that if ninety-four per cent of the elderly saw the "wife," then perhaps this drawing was too structured for the elderly to reorganize. The results of the study with the male figure were essentially the same as those with the female figure. Approximately seventy-seven per cent of the elderly saw the "husband" as compared to fifty-four per cent of the young. Again, reorganization of percepts was not as readily reported by the elderly as by the young adults.

The reason for the elderly reporting the young "husband" percept more often than the young subjects again may be that they denied old age. However, another explanation is at least as feasible and probably more so. In both male and female versions of the ambiguous figures, the old percept figure comprised the total photograph. The young percept figure comprised only a middle section. To see the "old" figures called for greater ability in perceptual organization or integration than seeing the "young" figure. The elderly subjects may have been more deficient in such perceptual organization and integration. The study which is necessary in order to tease these alternate possibilities apart would involve old and young percept figures varied with respect to the area of the total figure covered. Such a variation might be made along with assessment of the subject's acceptance of and adjustment to old age.

Personality — The Pursuit of Self-Esteem

It should be very clear that complex perception may be viewed as a manifestation of personality. The perception studies discussed above raise questions about denial mechanisms, about defensive reluctance to venture response, fear of recognizing inadequacy, and fear of failure. These interpretations provide clues to some of the themes in the literature on personality. There are hypothesis suggesting that many older people question their abilities, their roles, and their self-worth. Their behavior is often characterized by avoidance. One interpretation of this avoidance is that it wards off the possibility of failure, and thus maximizes the opportunities for self-acceptance.

The concept of avoidance, better known as disengagement, is probably the most thoroughly researched one in the study of personality in later life.[25] In its simplest form the concept of disengagement asserts that with increasing adult age there is an increasing tendency to dissociate oneself from people and activities. As the concept was originally expressed, this dissociation was a normal event, conceived as the inevitable behavioral counterpart of biological decline. A controversy developed, not about the observation, but about whether the dissociation was normal, inevitable, or desirable.

There are two questionnaire studies which bear on the controversy concerning the normality of disengagement, although neither one was designed for this purpose. In the first study elderly and young adults were asked to make a series of decisions, each involving risks. The alternative courses available in each decision were either to continue with an undesirable but tolerable situation, or to take action which if successful would remedy it, but if not would make the situation worse. The subject was told that he could decide to risk action on the basis of the likelihood of its success. He could risk if there were 9 chances in 10 that the action would succeed (conservative choice), if there were 7 chances in 10, 5 chances in 10, 3 chances or only 1 chance in 10. The least cautious or conservative response was scored 1, the next 3, and so on. The subject was also told that he could decide not to risk, regardless of the likelihood of success (scored 10).

The older people were more cautious in their decisions than the younger people, and this seemed to be an especially reliable result since it was seen in a North Carolina population after having been first reported in a Massachusetts population.[27] When the nature of the cautiousness of the older group was analyzed further, it was seen that much of the cautiousness was reflected in the decision not to choose the risky course of action regardless of the probabilities of success (the choice scored as 10).

It was recognized that the decision not to risk at all might be qualitatively different from the very conservative decision to attempt the risk only when the chance of success was great, such as 9 out of 10. If the two types of decisions are qualitatively different, the difference lies in the fact that the choice scored as

9 involves cautious risk behavior, whereas the choice scored as 10 involved avoidance. To test this, a second study of avoidance was carried out replicating the basic features of the first study, except that the choice to avoid (a score of 10) was not permitted.[28] Decisions involving risk were required of all subjects, but the wide range of cautiousness or conservativeness was retained. The thinking underlying the study was that if the older people were truly more cautious in the sense that the original studies intended, they should choose the least risky alternative that is, 9 chances in 10 — now that the avoidance alternative was not permitted. However, if caution in this sense was not involved in the original results and avoidance behavior was, then old and young should be similar in their choices when forced to a decision where some risk was unavoidable.

The elderly were not different from the young in cautiousness scores when they were obliged to make a decision involving risk. The two studies taken together showed that when given the opportunity, the older subjects simply chose to leave the field. It seems possible that this type of disengagement reflects a fear of failure involving problems of social approval and perhaps self-acceptance as easily as it does a loss of interest. The elderly subjects did not convey disinterest or poor motivation in the testing situations. Disengagement may best be seen as a defensive responsiveness to confrontations with the social forces of life, rather than as an unresponsiveness to the impact of the environment.

The two questionnaire studies discussed above are not traditional studies of personality. The more traditional studies are varied and difficult to integrate. The main reason for this difficulty is that many different tests have been used and these tests have generated different lists of personality traits or combinations of traits. In general, most of the investigators seem to end their studies unimpressed by the scope and magnitude of changes with age in personality. Yet it is difficult to know what is impressive and what is not; for example, a typical finding using the Minnesota Multiphasic Inventory (MMPI) is that there is a slight elevation of the D-scale score; that is, there is a slight but very consistent trend for a higher Depression score among the elderly than in the young. Less frequently found is a trend toward increased Hypochondriasis and Social Introversion scores. What does an elevation in the Depression score, especially when slight, tell us about the functioning life of older people with respect to depressive affect? All that may be said at present is that depression seems to be seen clinically in old age, especially among the aged who are in poor health.

Constriction is another personality characteristic of older people which sometimes is found. Constriction seems to be prominent in the Rorschach protocols; for example, Ames reported that older people tend to have fewer responses, a decrease in the variety of content categories, and an increase in the percentage of responses based upon form.[29] However, individual differences were stressed, indicating that some elderly people tended to present just the reverse of this pattern.

Perhaps in contradiction to these findings, Neugarten, Crotty, and Tobin reported that when constriction was seen, it tended to be in men under sixty-five years old, and when self-doubting was prominent, it was in relatively young women.[30] Their results were based upon a Thematic Apperception (T.A.T.) type of test and an extensive battery of other procedures. It would seem, therefore, that the specific procedures and the definitions of concepts to which these procedures give rise, are important factors in describing changes. The authors concluded that on the whole "personality type was independent of age."[31]

Considering the results of these and other studies, one emerges with a picture that is much in need of research clarification. Overall, the personality age trends seem small, but they may be important, nevertheless. There are conflicting signs in the literature, but constriction, social introversion, self-doubt, depression, and withdrawal seem to be characteristics that warrant further test. If these characteristics are personality trends in later life, then more attention to the elderly is required than simply trying to improve their performances. In any case, it should be remembered that most studies have emphasized the slightness of the trends, and, more important, all studies have emphasized the large individual differences which occur in personality changes with age.

SUMMARY AND CONCLUSION

The growth in the number of research publications in gerontological psychology is reaching such proportions that unless more summarizing and integrating textbooks appear soon, the literature may get out of hand. The literature thus far usually has been based upon cross-sectional studies. Longitudinal studies are more adequate, but they are very costly and time-consuming. In addition, longitudinal studies are not without methodological problems. They, like cross-sectional studies, reflect increasingly biased samples as one goes up the age continuum. The initially less able subjects drop out and are not available for later retest. A method combining the cross-sectional longitudinal, and yet another type of group comparison was described which is considered the best method yet conceived for doing developmental research. Unfortunately, it is a very difficult method to carry out.

Intelligence was briefly discussed. The observation was that not all functions decline with age; of those that do, not all decline at the same rate. One of the functions which does decline with age is the ability to respond quickly to environmental events. A controversy has arisen about whether this slowing is related to cognition. Whether it is related to cognition or not, the slowing does limit performance on a wide variety of tasks of intelligence and learning. This limitation in performance is exacerbated if complexity and lack of structure are introduced to the task. On the other hand, when conditions do not impose time limits, and when there is clarity and structure, older people may be expected to perform relatively well. What may appear superficially to be poor learning ability may be partly a difficulty in performing quickly enough.

Much of the apparent learning deficit may also be an unwillingness to demonstrate what has been learned for fear of being wrong and seeming incompetent. A fear of being wrong may stem from a loss of confidence in one's ability and in one's worth. The literature is not without its contradictions, but a loss of self-confidence is discussed often enough in relation to old age to warrant further test. Doubts regarding one's ability and self worth may lead to depression, social introversion, and, finally withdrawal.

Individual differences are always prominent. When downhill trends are seen in old age, most often they are slow in developing. There is an urgent need for research focusing upon the compensatory adjustments used by the elderly and the teaching techniques and devices able to elicit and facilitate such adjustments.

NOTES

This paper was supported in part by Public Health Service Research Grant HD-01325 from the National Institute of Child Health and Human Development.

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TRAINING STRATEGIES AND INDIVIDUAL DIFFERENCES

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The emphasis of this chapter is on the examination of various training strategies and the implications of each for handling individual differences. In addition, research findings pertinent to each strategy will be given as well as a statement of instructional procedures and techniques that have been found to be useful, especially in instructing low-ability men.

Background Information

The Human Resources Research Organization (HumRRO) is an applied research and development activity which was founded in 1951 when a contract was initiated between the Department of the Army and George Washington University. The mission of HumRRO, then and now, is to conduct studies and research in training, training devices, motivation, and leadership. Until July of 1967 HumRRO worked exclusively for the Army. Since then the Army contract has been modified to permit work for other sponsors both in and out of government, and currently HumRRO is engaged in a modest amount of diversification. On September 1, 1969, HumRRO became an independent nonprofit corporation. The overall objective of HumRRO is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation.

To carry out its mission, HumRRO has been organized into seven divisions, five of which are located at major military centers and two of which are located in the Washington, D. C., area along with the central office and other technical and administrative supporting offices.

The findings and discussion to be presented in this paper focus on the initial individual training of the soldier which occurs in Army training centers. These training centers conduct a common basic course for all enlisted men (Basic Combat Training) plus Advanced Individual Training for the military jobs which involve large numbers of men. In addition to training men for specific combat jobs such as infantry, artillery, and armor, training is given for such diverse jobs as clerks, clerk-typists, automotive mechanics, vehicle operators, cooks and bakers, telephone linemen, radio operators, and medical corpsmen. Clearly these courses have civilian counterpart occupations. The objective of the Army training is to provide the man with prerequisite skills and knowledges so he can perform effectively on the job.

In addition to the wide variety of content or occupations, the Army trains a highly diverse population. The diversity of this population has varied over time, both as the result of numbers of men needed and changes in policies of enlistment and induction standards. The basic test employed by the Armed Forces to screen for military acceptance or rejection is the Armed Forces Qualification Test (AFQT) which is regarded as a general measure of trainability for military service. The AFQT is a paper and pencil test which contains 100 items. They are divided into four equally weighted subtests covering verbal, arithmetic, shop mechanics or tool recognition, and pattern analysis or spatial perception skills. AFQT scores are recorded as percentile ranks ranging from 1 to 100. Thus, if an inductee receives an AFQT score of 80, this means he has done better than eighty percent of the population tested. From scores on this test inductees are classified into "Mental Groups" ranging from Mental Group I, reflecting the highest level of aptitude, to Mental Group V, the lowest level.

Table 1 shows how inductees are classified by the AFQT scores.[1] In addition, approximate equivalents for the Wechsler Adult Intelligence Scale (WAIS) are presented. It should be emphasized, however, that the AFQT score is not interpreted in terms of IQ. It is rather to be considered as reflecting aptitude, including both innate ability and acquired skills and knowledges. A more elaborate explanation of the AFQT test and its relation to various factors such as geographic area, expenditures for education, teacher salaries, and the like has been presented elsewhere.[2]

In the past two years a rapid growth of total input combined with a Department of Defense decision to lower the AFQT standards has resulted in a large training load characterized by

Table 1

Classification System for Mental Aptitude Categories

Mental Category	AFQT Score	Wechsler IQ
I	93 – 100	123+
II	65 – 92	107 – 122
III	31 – 64	92 – 106
IV	10 – 30	70 – 91
V	1 – 9	69 and below

Table 2

Comparison of Characteristics of New Standards Men and Control Group

	New Standards Men	Control Group
Average Age – years	20.4	20.2
% High school graduates	43.3%	75.8%
Number of school grades completed (average)	10.6	11.9
Reading ability – median grade	6.1	10.9
% Reading below 4th grade	14.4%	1.1%
Arithmetic ability – median grade	6.3	NA*

* NA = Not Available

a very wide spread of individual ability, ranging from grade school to college graduate levels. Presently, while still admitting large numbers of people from Categories I, II, and III, the services have begun taking twenty to twenty-five percent of all enlisted accessions from the AFQT Category IV. Under the provisions of this program about 100,000 annual accessions come from the lower range of Category IV, the AFQT percentile scores 10 through 20.

Table 2 presents a profile of some of the characteristics of these Project 100,000 men and how they compare to a control group, which may help to provide a further perspective on the training problems facing the Army.[3] The control group consists of men selected by each service as representative of men accepted under previous standards. These men were administered tests by the services in April, 1968. The data for the Project 100,000 men are based upon about 46,000 men tested July, 1967, through March, 1968. As can be seen in table 2, the two groups are quite comparable in average age (20.4 and 20.2) but differ substantially on other factors. Of considerable interest are the findings that although the average number of school grades completed for the new accessions men is 10.6 with forty-three percent of them high school graduates, their median grade reading level is 6.1, with about fourteen percent reading below the fourth grade level. Also, on an arithmetic computation test they score at a 6.3 median grade level. These low reading and arithmetic scores are not too surprising since two of the AFQT subtests measure these same attributes.

As a result of this diversity of personnel input, HumRRO, along with others, was requested to initiate a series of research studies. The goal of these studies is to provide information which will allow the services to effectively and efficiently train and utilize as many of the lower-aptitude men as possible. The objectives of Project 100,000 are not only to assist these men to become satisfactory servicemen but also to prepare them to be productive when they return to civilian life.

Research on Training Broad Spectrum Aptitude Levels

Research in HumRRO's Monterey laboratory is concerned with the complete spectrum of aptitudes with an emphasis on the lower-aptitude men. Key questions that require answering are (1) the extent to which the AFQT scores are related to the acquisition and performance of skills and knowledges, and (2) if they are related, which techniques and procedures will allow for efficient and effective training of men at all aptitude levels.

Since ample evidence exists to show that aptitude differences do relate meaningfully to learning and performance in training, the question is what can be done to cope with these differences? What can be done to handle individual differences in instructional systems is to a considerable extent dependent upon the training or educational strategy employed. Four strategies which appear to have quite different implications for handling individual differences and for ease of management are presented in table 3. Fixed curriculum refers to a situation where content, organization, and the instructional mode are fixed. Variable curriculum implies the possibility of variation in content, organization, or instructional mode. Fixed and variable time refers to whether the instructional program requires all students to spend a fixed amount of time in the program or whether they can spend varying amounts of time. Fixed standard refers to the condition which requires each student to achieve a specified minimum level of proficiency before graduating from the course. Variable standard allows for the student to go beyond a minimum level of proficiency. All of these strategies are based upon the assumption that the objectives of the course or program are the same for all students. Although table 3 presents a framework with considerable similarity to Cronbach's model, the writer believes this approach is from a sufficiently different perspective to be of some use.[4]

Training Strategies I and II

The first strategy refers to a fixed curriculum and fixed training. Students enter together, receive a standard program of instruction, and finish together. Administratively, this single fixed track strategy is appealing; but the only time it could work efficiently is when prior selection insured a homogeneous input and methods and media of instruction were tailored to the group — which rarely, if ever, happens. In the military, formal selection procedures are based upon aptitudes, abilities, prior experience, and schooling to allow for a narrowing of the input. Nevertheless, based upon data such as previously discussed, it is apparent wide differences in entry-level skills and ability do exist. In short, this lock step training strategy ignores individual differences.

Generally, Army training has been alleged to fit this first strategy. In fact, however, the

Table 3

Training Strategies

Curriculum		Time	Standard
I	Fixed	Fixed	Variable
II	Fixed	Variable	Fixed or Variable
III	Variable	Fixed	Variable
IV	Variable	Variable	Fixed or Variable

training has been more similar to the second strategy of fixed treatment or curriculum with variable time — everybody enters together, receives the same instruction, but not all make it through the course the first time. Some men are "washed-back" or recycled and generally receive the same instruction as they did the first time. Experience in training shows that eventually most trainees do make it through a course with this strategy at least to meet minimal goals. However, data such as that provided in a study by Baker et al. raise the question of the efficacy of such a strategy.[5] In this study of Armor Advanced Individual Training training time for major blocks of instruction were varied with training content and procedure held constant. Among the several findings in this study relating aptitude and learning, it was found: (1) for each level of aptitude in general, as the amount of training time was increased, there was a corresponding increase in the percentage of test items answered correctly; (2) except in two of eighteen skill areas high-aptitude trainees were superior to medium-aptitude trainees, and the medium-aptitude subjects were superior to low-aptitude trainees at every level of instruction time (half, standard, twice, and three times the standard); (3) for most of the skill areas high-aptitude trainees who received instruction for half the standard period were superior or equal to medium-aptitude trainees who received instruction for twice the standard period and to low-aptitude trainees who received training for three times the standard period; and (4) in four major areas the low-aptitude group failed to acquire anything approaching an adequate degree of skills.

An important difference between Army training and public education is that the Army must utilize the products of its instructional system. The setting of minimum standards for graduation and insuring that these standards are met is mandatory. Thus, much of the Army training has involved a fixed standard.

It appears that in public education, especially in elementary and secondary schools, often a variable standard has been employed, which would account for the finding that high school graduates are reading at markedly different levels with thirty percent of them performing at or below the fourth grade level. An article by Bloom advocates and presents an excellent discussion of what would be implied for education and for the student if fixed standards were established and required.[6]

In both training strategies I and II, a key problem is where to gear the instruction. If it is at the low-ability level, then the more capable are held back with resultant boredom, poor attitudes, and lack of efficiency of instruction. Instruction geared at the upper level results in either unduly high attrition rates, or many who are moved forward without mastering the material.

Since the graduate must be employed by the institution, in Army training, much of the instruction has been designed for the middle to lower trainee with the general view that the higher-aptitude trainee will get the training anyway. The public schools generally seem to have had a tendency to place more emphasis on instruction for the middle- and upper-ability student.

One use of training strategy II which accommodates to differences in ability and allows for a fixed standard would be to gear the instruction to the low-aptitude student and allow the more able student to move through the program at his own rate.

Training strategies III and IV, which involve variable curriculum, are the only strategies which can effectively take into account individual differences. A summary of some research which emphasizes the necessity for accommo dating individual differences in training is presented before examination of these strategies.

Research on Aptitude and the Acquisition of Skills and Knowledges

A laboratory study by Fox et al. had as its purpose the clarification of the relationship between aptitude level and the acquisition of military skills and knowledges in a variety of tasks which varied in complexity.[7] Subjects for this study were 183 newly inducted Army recruits who were divided into three maximally distant aptitude groups on the basis of their AFQT scores: High Aptitude-AFQT scores 90 to 99; Middle Aptitude-AFQT scores 45 to 55; and Low Aptitude-AFQT scores 10 to 21. Supplementary psychometric data (Army Classification Battery and Aptitude Area Scores) and information on scholastic achievement (years of school completed, reading, and elementary arithmetic proficiency) showed the high-aptitude subjects to be decidedly superior to the low-aptitude subjects, with middle-aptitude groups scoring in an intermediate range. Although sixty-one per cent of the low AFQT group were high-school graduates, reading scores for low-aptitude subjects spread evenly across the grade levels from zero to eleven, whereas seventy-one per cent of the middle group, and ninety-four of the high-aptitude group read at or above the twelfth grade level. Since a major focus of the study was on the marginal-aptitude trainee, instructional methods were selected to maximize the low-aptitude recruit's opportunity to learn. The selection of instructional methods and learning conditions was established, on a judgmental basis, without regard for considerations of cost and effort, or for efficacy for the middle- and high-aptitude groups.

Where practical, training was automated to insure standardization and clarity, using audiovisual presentation including slides and video tapes. Verbal instruction was given in simple language with ample pictorial examples. All training was conducted individually with an instructor present to give prompts, answer questions, and to provide immediate knowledge of results after each response. Material was presented in the smallest possible integral segments. Instruction was repeated or reviwed, as appropriate, and practice was provided on each trial. In short, training procedures were tailored, within the experimenters' judgment, to give the lower-aptitude trainee the best opportunity to learn.

Tasks were selected on the basis of two criteria. The first was that the tasks should have elements in common with the skills and knowledges required in a large number of military jobs. The second criterion was that tasks should be representative of several levels of complexity. Gagne's taxonomy of learning types served as a general guide for discriminating complexity differences among tasks.[8] Gagne defined eight different types of learning which he outlined hierarchically from classical conditioning to problem solving. The first criterion, that tasks be representative of practical military jobs, prevented the selection of pure examples of each learning type as proposed by Gagne. The task battery, as finally selected, was composed of eight tasks which were roughly placed along a dimension of complexity as outlined in table 4.

The simple and choice monitoring tasks are considered to be representative of a number of visual surveillance or watchkeeping activities — tasks requiring detecting and reacting to a signal such as is required for switchboard operators and control panel monitors. In the simple monitoring task the subject's job was to press a response lever when a light appeared on a display panel. The choice monitoring task required responding to one of four possible lights by pressing one of four corresponding lever. The importance of speed in responding was emphasized. As expected, all subjects were immediately able to do the task. However, the results indicated that at this relatively simple level of task complexity, low-aptitude subjects displayed poorer performance when compared to higher-aptitude subjects. The low-aptitude subjects were on the average slower to respond, more variable in their responses, and were not as accurate as those of higher aptitude.

At the next level of complexity, which required the learning of fixed procedures, the rifle assembly and disassembly tasks are elements in common with a variety of tasks performed in many jobs. In addition to assembly and disassembly procedures, fixed-procedure motor tasks are involved in the maintenance of the whole spectrum of mechanical and electronic equipment. In these tasks the job was to assemble or disassemble the rifle in a prescribed seven-step sequence. The individual

Table 4

Ordering of Tasks Along a Dimension of Complexity

	Description of Learning Requirements	Task
Complex ↑	Requires learning of concepts and principles and their application in a problem situation	Position Plotting
	Requires multiple discriminations of words and symbols (serials or paired-associate learning)	Map Symbols Phonetic Alphabet
	Requires learning of fixed procedures; either verbal or motor (chaining of verbal or motor responses)	Equipment Preparation (verbal procedure) Rifle Assembly Rifle Disassembly (motor procedure)
Simple	Requires association of stimulus and response	Choice Monitoring Simple Monitoring

trainee was led, step-by-step, through correct assembly or disassembly procedure via a video tape presentation. After each step in the sequence the tape was stopped and the trainee was allowed to complete the same step on a rifle provided him. On each trial he received prompts and direct assistance if required. Subjects were told to work as rapidly as possible but not to skip steps or attempt shortcut procedures. Clearly, all of the trainees could perform the task, but there were differences on the initial ability to profit from instruction, the amount of help needed, and the final level of performance. All differences were in favor of the high-aptitude group. Low-aptitude subjects on the average took about twice as long as high-aptitude subjects to reach minimum proficiency, and required more than twice as much individualized help or prompts. There was considerable variability in individual performance within aptitude groups. Some low-aptitude trainees reached criterion with a minimum of training and practice, while others did not reach criterion on the last recorded trial. On the other hand, there were a few high-aptitude trainees who did relatively poorly on the tasks although all reached criterion.

At about the same level of complexity as the above tasks was the equipment preparation task which is a fixed-procedure task but emphasizes learning a series of verbal responses. Verbal procedure tasks are found in many jobs that require the use of checklists in the setting up and operation of equipment such as checkout procedures and trouble shooting. The equipment task consisted of a thirty-four-step procedure for launching a missile. The subject was trained to perform the thirty-four-step sequence on a specially designed training device which simulated a missile control panel. The proper procedure was demonstrated by an instructor and the trainee was provided a written checklist. The instructor provided verbal and spatial prompts throughout training. On the average, low-aptitude subjects required six times as many prompts, three times as many trials, and at least four times as long as high-aptitude subjects to reach criterion. The low-aptitude group showed the greatest variability, with some subjects of this group mastering the task early while others never did.

The learning of map symbols and the international phonetic alphabet are examples of tasks involving multiple discriminations. The map symbols task required learning to associate words with symbols, while the phonetic alphabet task required learning to associate letters of the alphabet with corresponding phonetic equivalents. Examples of other tasks of this nature included learning cooking times and temperatures for food, nomenclature of the names of parts of equipment, and color coding.

The map sumbols task consisted of learning twenty-six commonly used map symbols. Each symbol appeared on a five inch by eight inch study card with its appropriate name, and an artist's representation of the thing, place, or event which was represented by the symbol. The trainee used the cards for a series of study periods. After each study period the trainee was asked to identify the twenty-six symbols. The instructor indicated the errors made as well as telling the trainee the correct responses. The general procedure for the phonetic alphabet task followed that of the map symbols task. All of the twenty-six letters and their corresponding equivalents were printed on a single card in correct alphabetical sequence, for example, A-ALFA, B-BRAVO.

On the map symbols task the low AFQT group took about twice as many trials to attain criterion as the middle AFQT group, and the middle AFQT group took about twice as many trials to reach criterion as the high AFQT group. Again, the low-aptitude group exhibited much greater variability than the other two groups.

On the phonetic alphabet task the performance of the high and middle group were much alike and both differed markedly from that of the low-aptitude group. Although not as pronounced as in the map symbols task, wider variability was again evidenced within the AFQT group.

The final task used in the study by Fox et al. was the position plotting task which represents the highest level of complexity included in the task battery. This task involved the learning of concepts and the application of principles. The recruit had to learn the concepts of range and bearing and apply them in an intersection problem to plot the position of an aircraft. Instruction in plotting techniques was given using a coordinated audio tape 35-mm slide program presented via closed circuit television. An instructor was present to provide help, direct practice, and answer questions throughout the instructional sequence. At the conclusion of training subjects were required to make ten plots on a plotting board. After each plot the instructor provided immediate knowledge of results by indicating the correct point of intersection.

The high- and middle-aptitude groups had little trouble mastering the plotting task. However, one-fourth of the low AFQT subjects had not obtained criterion performance by the end of training. Again, considerably greater variability was displayed by the low-aptitude group.

The results of this laboratory study are consistent in demonstrating large and meaningful differences among recruits of differing aptitude levels on these tasks which vary in complexity. In general, the low-aptitude subjects were slower to respond, required more training time, needed more guidance and repetition of instruction, and had a wider variation in performance than the middle- and high-aptitude subjects. It is not surprising to find that differences existed among aptitude level groups on the more complex tasks. What is significant is the magnitude of the differences observed and the fact that they occurred at all levels of task complexity, including very simple tasks, and on both verbal and motor skill tasks.

On almost every task there were a few low-aptitude subjects whose performance matched that of the middle and high groups; similarly, on almost every task there were some low-aptitude subjects who failed to reach criterion, and the remainder were spread over a wide range of performance. Apparently men identified by the AFQT low mental category are not all slow learners; they constitute a heterogeneous group. Factors such as language difficulty, motivation, and test-taking experience could all contribute to an individual's receiving a low AFQT score, but analysis shows that such factors do not account for the group differences obtained in the present studies. An important problem to be solved in military training lies in the differential sorting of low-aptitude personnel. There is a need for devising ways to identify the faster learners and their areas of promise among those who enter service labeled as low aptitude.

As a further check on the relationship between aptitude as measured by the AFQT and by performance, follow-up data on these same subjects' performance were obtained. At the end of the first eight weeks of training all trainees are given an end-of-cycle test over those subjects covered in Basic Training. These tests, which cover both motor skill and cognitive material, are part performance and part written. The Basic Training program is highly standardized and focused toward the level of the lower-aptitude recruit. There is considerable effort both in the formal program and in remedial training to insure that almost all men meet graduation standards by passing the test. Although all subjects passed the tests, the findings are consistent in showing the generally superior performance of the high-aptitude group, with the greatest differences appearing in those tests covering cognitive material. As one moves away from Basic Training and into the more advanced and technical courses, such as are given in combat support training and involving greater cognitive demands, these differences in aptitude become more noticeable.[9]

These data on performance are quite compatible with a previous HumRRO study by Goffard et al. which investigated in more detail the Category IV (AFQT scores of 10 to 30) personnel in Basic Training. As might be expected, they found that "in comparison with the men in other categories, more of the Category IV came from poor social, economic, educational, and occupational backgrounds and had low expectations and aspirations for their future life."[10]

Training Strategies III and IV

Training strategies III and IV do allow for the handling of individual differences. The third training strategy of variable curriculum and fixed time has the administrative nicety of a fixed termination for all students but almost certainly would result in some form of grouping and variable output. Theoretically at least, the instructional approach can be geared to the appropriate ability level to insure efficient mastery of material. If the decision is to invest a given amount of time for instruction, then it follows that with this strategy the outcome will be a variation in amount mastered. It is difficult to conceive of an instructional approach that will overcome the marked differences in ability and past experiences observed in the HumRRO data, especially when the input consists of adults. One of the key requirements of this strategy is the employment of a selection procedure which places individuals into the proper instructional group. That this is extremely difficult is evidenced by many studies, including the one previously summarized, where there was marked variability in acquisition and level of performance of those trainees with low AFQT scores. One of the prime dangers with this strategy is that with fixed time it is difficult to allow for movements of students from one group to another depending upon performance. Also, students can easily be pegged or categorized as members of a particular group with expectations which may have a negative effect on performance.[11]

The last training strategy to be discussed (Strategy IV) is one that calls for variable curriculum and variable time. This strategy allows for the greatest attention to the individual and calls for the most complex management. However, it also allows for the most flexibility — flexibility not only in the instructional system but also in handling the output of the course. If desired, the student can continue a program until he reaches a given level of mastery, or students can be allowed to reach different levels or capabilities, and, if necessary, remedial instruction can be introduced. An example is the literacy training in the military which has as its goal increasing literacy and arithmetic skills of students before they start formal training. Students can be moved ahead or allowed to skip certain sections since they already possess the prerequisite skills and knowledges.

Overall, it appears that training strategies I and II, which have a fixed curriculum, cannot truly handle individual differences, although strategy II with variable time does allow for different rates of progress. Training strategies III and IV do allow for handling individual differences, with only training strategy IV allowing for both variable curriculum and the option of either having the same standard for all, or having different standards.

The Systems Approach

Regardless of the strategy adopted, the course content, the characteristics of the student, and the method or media employed, there are certain requirements which are common and essential to efficient and effective instruction. These requirements, which are derived from training technology, are:

1. Terminal course objectives must be determined and explicitly stated. Such statements involve what it is that the learner should be able to do following instruction, including the conditions under which he should be able to perform and the standard or level of performance required.

2. These terminal objectives must be analyzed or broken down into enabling objectives. In most summary forms this involves determining the prerequisite skills and knowledges that the learner must possess to be able to perform satisfactorily the terminal objectives which constitute the goal of the course.

3. Performance evaluation must be incorporated to include assessment at entry level, during progression through the course, and of final proficiency. The discrepancy between entry level capability and terminal objectives defines to a great extent what must be accomplished in instruction. Assessment of progression through the course reflects mastery of the enabling objectives while assessment of final proficiency reflects the success of the instructional program.

The value of and procedures for accomplishing the above steps are well established both for training and education.[12] Many readers will recognize that these statements constitute components of what has come to be called the systems approach to the development of instruction. Recently the Army published a directive requiring that all Army courses undergo this systems engineering.[13] An excellent presentation and discussion of various systems approaches, including the HumRRO one, can be found in a recent publication.[14]

ADDITIONAL TRAINING VARIABLES

Carrying out the above steps to a considerable extent defines course objectives and assures adequate measurement. Of equal importance in course construction is the selection of course content, instructional method or media, and management decisions on incentive systems and use of resources. The present HumRRO research effort is focused not only on these factors or variables and how they relate to each other and interact with ability or aptitude, but also on putting findings into practice through the testing of developed courses of instruction in operational settings. The goal is to provide information which will allow for effective training across all aptitude levels. Much research has been done, both military and civilian, and much more information is needed before the goal of taking into account individual differences can be fully achieved. Although final answers are not available on how to cope fully with individual differences, some information does exist which has implications especially for instructing low-aptitude men.

The Functional Context Approach

One such implication concerns the structuring and sequencing of content.[15] As might be expected, the higher-aptitude man is able to cope with a variety of organizations and sequencing of material. Although structure is helpful to the high-ability man, it becomes much more so for the low-ability person. Apparently, a cardinal aspect of this structuring concerns establishing the relevance or meaningfulness of the material to be learned. The establishment of such relationships is an essential characteristic of what has come to be labeled the "principle of functional context."[16] Numerous studies in such diverse courses as electronics training and the training of medical corpsmen have demonstrated the efficacy of applying this principle.[17] The principle of functional context is a general method of sequencing and structuring training content so that the intended use of new instructional material is established for the learner prior to the introduction of the material itself. The principle follows simply from the fact that one learns and retains best those new things one can somehow tie in with the already known. Ancillary to the principle of functional context are certain working rules: (1) go from the concrete to the abstract; (2) go from the specific to the general; (3) go from practice to theory; and (4) go from the familiar to the unfamiliar. The nature of the objective to be attained will determine which formulation is chosen.

What the principle of functional context implies is that one arranges and integrates subject matter material into meaningful tasks. It is task or problem oriented rather than subject oriented. Some examples may help to clafify this matter. In electronics maintenance courses instead of initially presenting a block of instruction on the theory of electricity followed by a block on the use of test equipment and then starting on trouble shooting or maintenance procedures, trainers start with a job-related problem or task to be done and teach only the relevant theory and test equipment required for the solution of the problem.[18] All of the theory, use of tools, and test equipment are taught in the context of meaningful tasks so that their relevance is apparent to the learner. At the time research was initiated on the training of medical corpsmen, instruction consisted of blocks of fundamental subjects taught in progressive sequence.[19] There were blocks of instruction in anatomy and physiology, common drugs and their uses, medical symptomatology, basic medical treatment, and so on. These subjects were taught in relative isolation and out of the context in which they were to be applied to the solution of a specific medical problem. Knowledges and skills necessary to the solution of a medical problem were frequently forgotten by the time they were to be applied. In the functional context approach the material to be learned was organized around the job requirements. Instruction was developed around what occurs to a wounded or sick man successively and what the medical corpsman must know and do to care for him properly. Tying the instructional sequence to medical techniques meant teaching essential knowledge and skill in conjunction with these techniques.

Evaluation

Consistent with the functional context approach is the requirement that the mastering of material be emphasized throughout the instructional program.[20] This requirement is based on the premise that learning is cumulative and the learning of new material is directly dependent upon the student's mastery of prerequisite knowledges and skills. Further, it implies that careful assessment should be made as to where the learner is at each stage of the learning process from entry level on.

Methods

Another area which deserves attention is methods and media.[21] One thing appears clear — for efficient learning to occur, the learner should be an active participant and provision needs be made to insure that he obtains information on how he is doing. Such is inherent in programmed instruction, computer-assisted instruction, individually prescribed instruction, and practical exercise training. Historically, at least in military training, lectures, films, and educational television were often lacking in these characteristics. Fortunately, many of these lacks have been overcome as these media have been modified to insure learner participation and feedback on progress, both to the learner and the instructor. To a considerable extent this has involved instituting procedures for assessment after fewer teaching points and a combination of media such as short segments of video integrated with practical exercises.[22]

A second point under media concerns the selection of the appropriate media for the student. A series of studies at the HumRRO laboratory were initiated to determine the relative effectiveness of reading and listening as means for instructing men of different mental aptitude levels.[23] The results indicated that: (1) with medium- and low-aptitude groups, listening was as effective as reading in promoting the recall of factual information of sinple and of complex passages; (2) for both reading and listening, the performance of the medium-aptitude group surpassed that of the low-aptitude group; (3) some individuals in both aptitude groups did better by reading than by listening, and vice versa. The obvious implications are: (1) that where feasible, reading and listening materials should be made available to students so the student can choose the media most appropriate for him; and (2) the level of difficulty of content must be matched to the student for both reading and listening.

A final point on media concerns simulation and simulators. The general use of simulated training and the use of simulated situations has mushroomed in the last twenty years, and all indications are that greater attention and use of simulation will occur in the future. A basic question exists as to the requirements for fidelity in the simulator or simulation — to what extent must it resemble the actual equipment or situation for learning to occur?

A considerable body of literature exists which shows that for fixed procedural tasks, ranging from starting and stopping a helicopter to controlling course and depth in a submarine, fidelity is relatively unimportant in the training device. In a series of studies at the HumRRO laboratory Grimsley investigated the interaction of aptitude level and fidelity of the training device on learning and retention.[24] The task consisted of learning a fixed procedure involving a ninety-two-step procedure for putting a control panel into operation. AFQT Category IV and Non-Category IV personnel were trained on one of three panels differing in appearance and/or functional fidelity. They were released four and six weeks after initial training. The high-fidelity panel was a physical duplication of the actual equipment, in which everything worked — all lights, meters, the intercom, and so on; the second panel was identical to the first except that there was no electrical power; and the third, or low-fidelity device, was a full-size artist's representation (in color) of the high-fidelity panel.

Consistent with other studies, Grimsley found that for the medium- and high-ability trainee, the fidelity of the training device used for fixed procedural tasks could be very low with no adverse effect on the time needed for training, the level of proficiency, the amount remembered over time, or the time needed for retraining. However, fidelity of the training device was found to be most important in the training of low-ability personnel. For the low-ability group the higher the fidelity of the device, the greater the proficiency achieved and the less time required for training. Marked variability of the low-aptitude group also was observed in this study. For procedural tasks simple, low-cost pictures or drawings can be substituted for actual equipment or expensive simulators or models when instructing average- or high-ability personnel. Caution should be employed on practicing such economy when training low-ability men and should be weighed against increased cost in needed time to learn and the amount mastered.

Motivating

A final area, which will be mentioned briefly, concerns motivation and incentives or rewards. The high-ability man comes to the learning situation with a history of general learning success and usually has considerable confidence in his ability to learn new things. The low-aptitude man often has had a history of non-success in learning which has done little for his self-concept and has resulted in a general desire to avoid situations that appear like schooling.[25]

Training for the high-ability man may consist of presenting him with a challenging situation coupled with appropriate incentives and allowing him to move forward at his own pace. For the lower-ability man, the question is more how to get him started and how to make provision for early and consistent success so that he can gain self-confidence.

In the past few years behavioral scientists have learned much about procedures to be used in the application of incentives or rewards.[26] Procedures have been concerned both with the schedule of application as well as the nature of the incentive, that is, what incentive can be given to increase motivation and desire to learn. Incentives often used are recognition, material rewards, and autonomy. Clearly, if the incentive is positive, more learning occurs. Further, some evidence suggests that in training for the more able man, the payoff can be at a more distant time — he values autonomy. However, for the lower-ability man, the payoff is more efficacious if it is of a more immediate nature and of a material sort.

Summary

1. HumRRO has found marked and meaningful differences among ability groups as defined by the AFQT, in learning and performance and has concluded that these differences should be taken into account in training.

2. Four training strategies for handling individual differences were examined. The fourth and most flexible strategy appears the most desirable in that it allows for variable curriculum, time, and either a fixed or variable standard.

3. Three prerequisites have been found essential to efficient and effective instructional

development regardless of the strategy employed. They are: (a) a statement of terminal objectives; (2) a statement of enabling objectives; and (3) the establishment of performance assessment or evaluation.

4. HumRRO has found that functional context and progressive mastery are essential components of effective course presentation to low-aptitude students.

5. Provision for student participation and student knowledge of progress coupled with highly individualized media and techniques are especially important in instructing men of lower ability.

6. The writer is convinced that the problems that HumRRO is coping with and the solutions achieved in individualizing Army training have direct application to civilian education and training.

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Testing Adults

TESTING DISADVANTAGED ADULTS

Robert C. Droege

This presentation will be based on United States Employment Service (USES) research to develop tests for use in counseling disadvantaged adults, especially that research that should have the greatest relevance to adult basic education programs. The approach of this paper will be as follows: (1) a little background about the USES research program and the new direction it is taking; (2) a summary of developments that have implications for testing educationally deficient adults; (3) more detailed information on research on specific tests and techniques; and (4) an invitation to research.

BACKGROUND

The U.S. Employment Service has had more than thirty years of experience in developing tests for use in personnel selection and vocational counseling. This experience has been based primarily on research with adults who have at least sixth grade literacy skills. The research program is a federal-state partnership in which the USES national office determines priorities and coordinates the work of state employment service test research personnel. The operational tools and techniques resulting from the research are made available to the 2,000 local employment service offices and also to schools and other organizations through release agreements.

The major product of the USES test development program prior to 1963 was the General Aptitude Test Battery (GATB), used in connection with employment selection and vocational counseling. The GATB consists of twelve tests measuring nine basic vocational aptitudes. It can be administered in about two and one-half hours and indicates an individual's potentialities in a wide variety of specific occupations and in families of occupations with similar aptitude requirements. A continuing program of occupational validation of the GATB is conducted by the employment service to extend its coverage to additional occupations.

During the last five years a major effort has been made to develop new and improved instruments to meet the needs of new manpower programs concerned with disadvantaged individuals. A nonreading alternate form of the GATB was developed. A screening procedure was devised to help ensure that GATB tests were appropriate for individuals to whom they were to be administered. A booklet, "Doing Your Best on Aptitude Tests," was prepared, and a set of pretesting orientation exercises was developed to be used with individuals with limited test-taking experience.

Basic occupational literacy tests of reading and arithmetic skills are being developed. They will assist in making appropriate referrals to literacy training programs and in determining the type and amount of training in these basic skills which an individual needs in order to meet the requirements of specific occupations and occupational training. For employment service applicants who are so severely disadvantaged that conventional testing is not feasible, work-sample techniques are being tried out which give inexperienced individuals the feel of activities associated with various kinds of work.

Research is continuing on the GATB. The number of specific occupations for which the GATB has been validated has risen to more than 400, including many newly emergent occupations. Special research studies are in progress to determine the effectiveness of the GATB and other USES tests in training situations such as the Manpower Training and Development Act (MDTA) programs.

The GATB is widely used by schools, government agencies, and nonprofit counseling agencies. Other organizations are also cooperating in a variety of research projects involving existing and new USES tests, such as the development of model processes and procedures for testing, a feasibility study of a programmed interpretation of GATB scores, research on the USES nonreading aptitude tests, a study of the usefulness of the GATB predicting success in vocational training, and an evaluation of a pilot computer-assisted vocational guidance program.

A SUMMARY OF DEVELOPMENTS

Nonreading Aptitude Tests

The USES General Aptitude Test Battery has been a valuable tool in the measurement of aptitudes of job applicants and candidates for occupational training. However, many of the hard core unemployed who need vocational counseling and remedial services to help them become employable do not have sufficient literacy skills to take all of the GATB tests.

This problem led the U.S. Employment Service to work toward development of a nonreading edition of the GATB for use with the educationally deficient. The GATB was used as the model in this development for two reasons:

1. The GATB measures the important vocationally significant aptitudes. This has been demonstrated through factor analyses, correlations with other tests, and occupational validation studies.[1]
2. The GATB has been validated extensively against occupational criteria. The occupational norms developed in these studies provide a ready-made basis for interpreting scores on a nonreading edition of the GATB.

The research of the nonreading GATB was initiated in 1963 and has progressed through the stages of test construction, item analysis, preliminary tryout, validation, and standardization studies. The research is described in a USES technical report available from the U.S. Department of Labor.[2] The nonreading edition of the GATB resulting from this research is being released for operational use this spring. The new battery of aptitude tests for use with the disadvantaged consists of eight new tests and six of the GATB tests. Total administration time is about three and one-half hours, about an hour longer than the GATB. Although the major use of the new battery is anticipated to be in the employment service, other organizations concerned with counseling disadvantaged adults will find the tests useful.

This research is only a first step in a continuing effort to develop and refine aptitude measurement of the disadvantaged. Just as the GATB becomes more valuable as additional validation data are collected, the usefulness of the nonreading aptitude tests will increase as additional research is done on them. At this point in the research, an aptitude test battery has been developed that (1) is oriented to the capabilities of the educationally disadvantaged and (2) provides measures underlying the occupationally-oriented GATB. However, much more needs to be done to refine these measures and to validate them against training and job success of disadvantaged individuals. Ultimately, the occupational norms structure for the nonreading aptitude tests will be based on occupational validation for disadvantaged groups.

Pretesting Orientation Techniques

One thing that the USES research on disadvantaged individuals has shown clearly is the critical importance of pretesting orientation. In 1966 state employment services were asked to observe the behavior of disadvantaged persons taking the experimental nonreading aptitude tests. Typical observations were (1) many did not report for testing; (2) examinees often became confused but hesitated to ask questions; (3) many marked answers randomly; and (4) some deliberately skipped pages to finish quickly. There was a consensus that the disadvantaged were anxious, easily embarrassed, easily discouraged, sensitive to possible reactions of others to their behavior, and easily distracted. Three major areas of pretesting orientation needed were identified:

1. *An introduction to the purpose of testing.* Orientation is needed to show the examinee how testing will be of use to him in job or training placement. An understanding of the purpose of testing should help motivate examinees to do their best on the test.
2. *Practice test taking.* The manipulation of test materials, working problems similar to those in the test, and practice in pacing work to time limits should build confidence in ability to take the test.
3. *Suggestions on how to take tests.* Middle class persons have built up a store of information about tests and test-taking techniques (test wiseness) which allows them to use their time efficiently, avoid errors, and detect cues to right answers. Disadvantaged persons have had little positive experience with tests. Development of their test wiseness would put them on a more competitive footing with others.

Several state employment services are working on development of pretesting orientation materials in these three areas. Various types of audio and visual materials and practice tests are being developed. The objective is a comprehensive and flexible package of pretesting orientation devices. So far, two USES pretesting orientation techniques have been developed. One is a booklet on "Doing Your Best on Aptitude Tests" and it is on public sale at the Government Printing Office. A second technique, "USES Pretesting Orientation Exercises," provides practice on tests like those in the GATB.

Work Sample Techniques

Among the disadvantaged are those who have great difficulty relating to any formal test situation. For these, work-sample assessment techniques may be useful. Work samples are standardized job performance tasks designed for use in developing the employability of disadvantaged individuals. The work-sample technique consists of the work samples per se, a structured environment in which they are performed, and evaluations of the client's behavior based on observations. The work samples take about two weeks to administer. They provide the individual and his vocational counselor with a common basis for discussion, provide a basis for evaluation of the individual's occupational potentials, and provide the individual with a basis for developing insights into areas of interests, aptitudes, and motivation. Although the work-sample technique is appropriate for any applicant as a simulated job try-out experience, it is particularly useful with disadvantaged clients having histories of failure in school.

The tasks selected as work samples are simulations of activities that would be encountered on a regular job. Standard tools and equipment such as screwdrivers, saws, adding machines, typewriters, needles and thread, soldering guns, pipe couplers, blouse patterns, and many other work-a-day items are used. The work-sampling environment is a typical factory setting with work benches or a business office and its equipment. The work samples range in complexity from very simple, structured operations to difficult activities involving symbolic reasoning and abstract conceptualization. They are derived from activities performed in competitive industry and are representative of a wide variety of interrelated functions such as psychomotor coordination, and spatial relations. Because they are not different from the kind of work a potential employee would be required to perform in an ordinary job, the experience is less threatening and more meaningful to a disadvantaged and handicapped population. In addition, the administration of such work samples in an industrial setting maximizes the usefulness of the observations.

The use of the work-sample technique for the disadvantaged was investigated by an experimental and demonstration project involving 268 jobless persons. It was funded by the Department of Labor in a slum area in north Philadelphia. The Philadelphia Jewish Employment and Vocational Service (JEVS) conducted the experiment with a grant which included funds for allowances to the people who took part. A cooperating agency was the North Philadelphia Human Resources Development (HRD) Center of Pennsylvania State Employment Service.

Of the 268 taking part in the experiment, 107 were referred by their counselors to jobs, 57 to rehabilitation services, and 43 were placed in job training programs. No immediate results could be obtained for the remaining 61 or 23 percent, as the HRD counselors felt that further evaluation was required. Applicants were observed and evaluated on work attitudes, accuracy of performance, promptness in reporting to work, learning speed, acceptance of authority, and other work-related behaviors. The technique had a high degree of acceptance among the participants. That acceptance enabled vocational counselors to understand and communicate with their clients.

Based on the comparative experience of an experimental and control group, the work-sample technique seems (1) to make easier the development of vocational objectives suited to the applicant's abilities and potentials; (2) to boost the applicant's chances to be referred to a wide range of job openings, to get a job on the first referral, and to hold and to adjust to a job or training position; (3) to help the counselor to identify more readily the need for giving the applicant supportive services; (4) to enable counselors to estimate for employers the potential for learning and the likely stability of individuals who have been out of work a long time or have no work experience whatsoever; and (5) to give the disadvantaged person more confidence by helping him understand his ability to work and to learn.

Based on these preliminary findings, the U.S. Employment Service is now preparing to evaluate the technique as an employment service operation in about ten cities. This evaluation will consist of comparing two groups of applicants — one group of people who do the work samples and a matched control group of people who do not do them. The purpose of the study is to determine if the use of work samples in addition to the traditional counseling techniques improved employability.

Testing for Achievement of Basic Literacy Skills

The topic of testing for achievement of basic literacy skills will make up the largest portion of this paper since this topic has direct relevance to adult basic education programs. First, the nature of achievement tests of basic skills, and their typical orientation to school-age youth will be considered. Second, the characteristics of adults enrolled in basic education courses and implications for testing their skills will be discussed. Third, the inadequacies of presently available tests for use with adults will be discussed. Fourth, what the employment service is doing to develop a suitable test for adults will be outlined.

Nature of Achievement Tests

Achievement tests measure an individual's present level of performance in reading, arithmetic, or other types of skills. Of the many types of achievement which may be tested, reading and arithmetic skills are perhaps the most important. These may be called "basic skills" because they are essential to a wide variety of activities, including the learning and subsequent performance of most jobs. These skills are primarily learned in school and probably are the chief outcomes of the regular school curriculum. Achievement tests provide objective, standardized measures of an individual's present performance in the basic literacy skills.

Achievement tests have what is defined by the *Standards for Educational and Psychological Tests and Manuals* as content validity.[3] The *Standards* state, "Content validity is demonstrated by showing how well the content of the test samples the class situation or subject matter about which conclusions are to be drawn."[4] In other words, provided that the tests have adequate reliability, the usefulness of achievement tests rests primarily on the appropriateness of their content rather than on their relationship to any external criterion. The areas to be covered by an achievement test intended for use in the schools, and the relative emphasis to be given to the various topics within each area, are usually determined by reviewing curricula or by the expert judgment of subject-matter specialists.

Anastasi observes that achievement tests are an important factor in remedial education programs, both in identifying those individuals who have specific types of deficiencies and in measuring progress in the remedial training provided.[5] She also points out that the use of achievement tests in remedial education promotes learning by revealing weaknesses in past learning, giving directions to subsequent learning, and motivating the learner. Achievement test results also provide the basis for adapting instruction to meet individual needs by ascertaining what each individual knows or can do, or does not know or cannot do. The types of skills measured by reading and arithmetic achievement tests are not assumed to remain at a constant level throughout life. They ordinarily are developed slowly throughout years of education through regular use in planned or unplanned school experiences supplemented by the effects of outside activities. For adults who are not longer in school, the skills may continue to develop by being used on jobs or in other activities, or they may deteriorate if the individual does not have the opportunity to exercise them. Just as the skills usually are developed initially through regular schooling, they may also be improved through literacy training provided under programs such as MDTA or adult education. Results on educational achievement tests are usually expressed in grade equivalents (or grade scores), although other types of scales may also be used. Publishers of the major achievement test series usually try to obtain a large and representative sample of school children on which to base their grade-equivalent norms; for example, more than 850,000 pupils in grades one through nine in 264 schools in all fifty states were tested to derive the norms for the Stanford Achievement Test.[6] There are some technical problems with the notion of grade equivalents even when used with school children for whom they are intended.

1. Grade equivalents assume regular growth throughout the school years.
2. Grade equivalents which are extremely high or low relative to grade placement usually must be extrapolated rather than based on data.
3. The interpretation of extrapolated values is difficult because a raw score in the extrapolated range does not necessarily represent the median score which would

actually be obtained by pupils at the corresponding grade level.

Despite such limitations, however, the grade-equivalent concept works satisfactorily with school children because the referrent group — pupils in the same grade — is meaningful to the teachers who are the primary users.

The grade equivalent concept is usually carried over when the tests are used with adults, because the results are used primarily by educators who think in the same terms and often use some of the same curriculum materials for adults as for children. However, in our opinion, it becomes an even more misleading index of achievement for adults that it is for children. It makes little sense to say that an adult has a reading level of 7.5 grades, for he is a low-achieving adult with an adult's activities, interest, and needs and not a child in the seventh grade. He is not enrolled in a standard school curriculum, and a comparison with norms based on school children is of little value in planning future training or other remedial action.

Characteristics of Adults Enrolled in Basic Education Courses

The individuals with whom reading and arithmetic tests are used in the employment service represent a group quite similar to those enrolled in adult basic education programs. Several important differences from the general population affect the administration and interpretation of tests.

First, the disadvantaged population tends to be educationally deficient. School dropout is one of the chief indicators of disadvantage, and there is a strong likelihood that those who drop out of school will have lower levels of achievement than those who remain in school to graduate. There is also evidence that individuals who have dropped out of school generally have levels of tested achievement well below their stated years of education. A study conducted by the employment service found that a sample of 578 persons with an average of 9.4 years of education had average tested achievement of 6.0 grades, an average discrepancy of almost three and one half years. It should be noted that the relationship between achievement level and years of education is low, indicating that the number of years of education is not a dependable index of level of achievement for disadvantaged adults, although used as the index to determine functional illiteracy by the U. S. Bureau of the Census.

Second, many disadvantaged adults have an unfavorable opinion of tests because they did poorly on them when in school or because tests have been used to reject them for jobs. Therefore, they may resent being tested and be unwilling to devote the effort to do their best, particularly if the purpose of the test and its benefit to them have not been clearly explained.

Third, many have much more limited prior test-taking experience than advantaged persons and are not prepared to do their best on tests. They do not follow directions correctly, do not work quickly, and do not guess when it would be to their advantage to do so.

People with these characteristics are sufficiently different from the general population to require special treatment in testing. It is important that the testing environment be structured to protect the individual's dignity and self-esteem. Special attention needs to be given to ensure that the test is perceived by the examinee as being worthwhile and valuable to him, that the test content is appropriate and meaningful, and that directions are adequate and understood by the examinee.

The extent of educational deficiency existing in the United States is much greater than usually supposed. Although the median educational level of the adult population is approaching twelve years, there are more than eight million persons twenty-five years of age and older who have completed five years or less of education, and twenty-three million who have eight years or less. These low-education individuals are concentrated mainly in the following groups: (1) older persons; (2) persons living on farms, especially Negroes; (3) persons with rural backgrounds who have moved to urban centers, including Puerto Rican migrants; and (4) migrant farm workers and other disadvantaged groups, including Spanish-speaking persons in the western and southwestern United States. Although low education is more prevalent among these groups, it is not confined to them. There are substantial proportions of low-education individuals in all states. Associated with low education is, of course, low levels of achievement in the skills and knowledge which are learned in school. There are, therefore, millions of persons whose achievement is too low to qualify them for any jobs except those menial types of work in which literacy skills are not important. As noted above, an additional group who claim more than eight years of education also evidence an educational deficiency which interferes with their employability.

Achievement Tests for Adults

The need for reading and arithmetic achievement tests in the employment service first arose with the passage of the amendments to the Manpower Development and Training Act which authorized training in basic skills when necessary to assist an individual in undertaking vocational training. Literacy training is also a component of the Work Incentive Program (WIN) and most other programs with manpower training provisions. The provision of literacy training in jobs or vocational training. Although improved reading and arithmetic skills may also provide personal benefits to the trainee, these ancillary benefits are not the basic legislative justification for providing literacy training.

In 1964 when achievement tests were first introduced into use by the employment service, there was no achievement test available developed by the employment service, and there were no commercially-published adult achievement tests for adults which had adequate technical data. The Metropolitan Achievement Test (MAT) and Stanford Achievement Test (SAT), which were developed for use in elementary schools, were therefore authorized for employment service use.

In 1967 the Adult Basic Learning Examination (ABLE) was also authorized. The ABLE, one of the new generation of commercially-published achievement tests being developed for adults, has content and format designed for adults but still does not have all of the features desired for an achievement test to be used in the employment service. Among the ABLE's limitations are the following.

1. Research data presently available for adults is limited.
2. Its basic norms are grade equivalents derived by administering both the ABLE and the Stanford Achievement Test to samples of school children.
3. No occupational or training programs are available.
4. Hand scoring is laborious.

Nevertheless, the ABLE represents a considerable improvement over the Metropolitan and Stanford for use with adults.

An achievement test which fully met requirements for use with hard-core unemployed and other disadvantaged adults in the employment service context would have the following characteristics:

1. *Choice of content.* Content should be directed toward the skills required in jobs and emphasized in vocationally-related literacy training rather than toward the elementary school curriculum.
2. *Appropriateness of content for adults.* The content should deal with topics with which adult examinees have experience and in which they are interested. Problems should be realistic. A study by Demming and Pressey shows that older persons scored higher on tests with specifically adult content than on tests of the same abilities with more general content.[7]
3. *Format and directions.* The test format and directions should make it clear that the test is for adults, differentiating it from children's tests with which the examinee may have had unfavorable past experiences. The format should be easy to use by persons with limited prior test-taking experience. In particular, the use of separate answer sheets should be avoided and a correction for guessing should be employed.
4. *Time limits.* The test should be as short as possible consistent with adequate reliability. At the same time, however, the test should be essentially a power test in which nearly all of the examinees have time to attempt all items.
5. *Flexibility.* The test should provide accurate measurement over a wide range of ability. It should allow for the fact that there may be much more variation among the levels of various skills for an adult than for a child. It should also provide measures at different levels of skill differentiation depending on the use to be made of the results.
6. *Appropriate reference group.* Basic norms for the test should be based on an appropriate adult population to which it would be desirable and appropriate to compare the examinees.
7. *Occupational norms.* The test should provide norms indicating the reading and arithmetic skill levels required to undertake various types of vocational training or to perform various occupations for which disadvantaged individuals may be considered in counseling.
8. *Relationship to other tests.* The test should have a high relationship to other achievement tests measuring the same skill areas,

and it should be integrated with aptitude tests and other measures used with the same individuals.

The Basic Occupational Literacy Test

Research is in progress to develop a series of USES tests in basic reading and arithmetic skills, to be called the Basic Occupational Literacy Test (BOLT), which will meet these criteria. The BOLT will have content, time limits, and administration procedures especially designed to be appropriate for use with educationally deficient adults and older youth in the USES context.

In addition to norms expressed in terms of school achievement, norms will also be developed which will indicate the reading and arithmetic skill levels required for success in specific occupations and occupational training. Basic norms will be based upon a sample representative of all individuals in the United States eighteen and over with eleven or fewer years of completed education. This base population, which includes about fifty-four million persons, was chosen because it reasonably approximates the educationally deficient group for whom achievement tests would be used. The characteristics of this population in terms of the relevant variables of age, sex, minority group status, and geographic region as well as education can be precisely defined in terms of available census data.

Three types of achievement test scales, each with a number of alternate forms, will be developed for the BOLT:

1. *Wide-Range Scale.* A very short scale, consisting of vocabulary and arithmetic computation items, which can be administered in approximately ten minutes in the interview situation to provide preliminary estimates of counselee's reading and arithmetic levels.
2. *Survey Scales.* Scales which will yield subscores on vocabulary, reading comprehension, arithmetic computation, and arithmetic reasoning.
3. *Diagnostic Scales.* Scales which will yield subscores for the diagnosis of the counselee's strengths and weaknesses in eight specific reading and arithmetic skills.

A major feature of the BOLT will be the availability of norms indicating the minimum levels of reading and arithmetic skills required to undertake specific occupations and vocational training. Knowledge of actual requirements, as identified through research, should promote the employment of the disadvantaged by reducing the reliance of employers on artificial requirements such as high school graduation. Considerable attention has been given to ensuring that the BOLT administration procedures are effective. Procedures have been written, tried out with a number of groups of disadvantaged examinees like those for whom BOLT is intended, and revised on the basis of the tryout results. Research to develop the Wide-Range and Survey Scales is in progress. Research to develop the Diagnostic Scales, which will require a somewhat different approach, will be started later.

USES RESEARCH

Predicting Success in Achievement of Basic Literacy Skills

Under the amendments to the Manpower Development and Training Act, basic education training programs have been set up to prepare educationally deficient individuals for occupational training. Such training was judged to be essential because the materials commonly used in occupational training require basic literacy skills. There has been no formal objective evaluation of these basic education training courses in terms of measurement of changes in achievement level of trainees. However, some information exists about a few courses. The information was obtained from studies done on the prediction of success in basic education training. The results are mostly disappointing.

The primary purpose of the studies was to explore the possibility of developing literacy aptitude patterns; that is, to determine whether it was possible to use aptitude tests as predictors of success in basic literacy training. The usefulness of such predictor batteries should be obvious. If educationally deficient individual's could be identified who could not succeed in literacy training, these individuals would be spared still another failure experience.

Four studies were done. They were not successful. In only one or two were significantly high relationships obtained between aptitude measures and the criterion of increase in literacy skills. Analyzing the results forced the conclusion that the primary reason for the negative findings was that the courses were not long enough for meaningful changes to take place.

Table 1

Increase of Literacy Skills with Training

State	No. of cases	Average years of education	No. of weeks of training	Average gain in tested achievement - - grade equivalent
Pennsylvania	40	10.7	up to 12	.4
Colorado	59	7.7	up to 52	1.3
Michigan	61	5.3	10	.6
Ohio	38	7.5	up to 20	.4
Louisiana	50	8.2	14	.6

Table 1 presents information from the four studies.

It was the Colorado study in which the best predictions of success in training were obtained. The greatest achievement took place in the Colorado course. It seems reasonable to suppose that when training is long enough and solid enough to permit some real achievement to take place, predictors of that achievement can be developed.

AN INVITATION

The Testing Branch of the U.S. Employment Service would welcome the opportunity of cooperating with researchers interested in the important area of prediction of success in literacy skills. The focus of the work to date has been on aptitude tests as the potential predictors and MDTA courses as the primary source of samples. This approach needs to be broadened to include noncognitive predictors, such as biographical information, and to use long-term basic education courses as a source of sample.

NOTES

1. U.S. Department of Labor, *Manual for the General Aptitude Test Battery,* Section III (Washington, D.C.: Government Printing Office, 1967).

2. U.S. Department of Labor, "Development of a Nonreading Edition of the *General Aptitude Test Battery,* "USES Test Research Report 23 (Washington, D.C.: U.S. Employment Service, 1968).

3. American Psychological Association, *Standards for Educational and Psychological Tests Manuals* (Washington, D.C.: American Psychological Association, 1966).

4. *Ibid.,* p. 12.

5. Anne Anastasi, *Psychological Testing,* 3rd ed. (New York: Macmillan, 1968).

6. *Directions for Administering the Stanford Achievement Test* (New York: Harcourt, Brace & World, 1964).

7. John A. Demming and Sidney L. Pressey, "Tests 'Indigenous' to the Adult and Older Years," in *Basic Education for the Disadvantaged Adult: Theory and Practice,* eds. Frank W. Lanning and Wesley A Many (Boston: Houghton Mifflin, 1966), pp. 315-321.

EDUCATIONAL ACHIEVEMENT TESTING WITH ADULTS: SOME RESEARCH FINDINGS

Bjorn Karlsen

Ever since the passage of the Economic Opportunity Act American educators have seen an almost dramatic increase in basic education programs for adults who lack functional literacy. Along with this emphasis there has been a renewed interest in the study of the educational achievement of adults. New instructional strategies are being experimented with, instructional materials are being published, the logistics of adult basic education programs are gradually being worked out; all of which is part of a total push program. In the process a great deal of information has been accumulated, information which should be disseminated.

The area of adult basic education considered in this paper will be primarily in the area of achievement testing. The *Adult Basic Learning Examination* (ABLE) was published in 1967.[1] Research on this test, however, continued past the publishing date; in fact, it is still going on. The purpose of this paper is to present some of these research data. Primarily certain measurement issues shall be considered in light of recent research evidence, then an attempt will be made to draw some implications from these findings for adult basic education.

Test-Taking Behavior

Practically all measurement research has been done with students at various grade levels. The research with the ABLE has, therefore, centered on exploring what differences possibly might exist between adults and students. One great difference is in attitude and in test-taking behavior.

It has been the experience of most adult basic education teachers that adults are considerably more apprehensive about taking tests. Motivation to take the test was a prime consideration in the physical design of the ABLE. For example, rapport was the primary reason for placing the vocabulary subtest first; the first test which faces the adult requires no reading whatever. Previous experimental evidence had indicated that it made no difference if the words were included on the answer sheet or if there were merely places where the testees could mark the correct answer. It seemed a little easier to administer the test with the words for the various options printed in the test booklets, although it did not affect the test scores. It was, therefore, primarily for motivational reasons that the words were deleted from the vocabulary test.

Experience with the ABLE has indicated that adults will show a sustained interest in the test, and they will persist in the test-taking behavior. Situations even have been found where the testees reported feeling that the arithmetic problem solving subtest presented problems so realistic to them and so consistent with their own personal and social needs that they were encouraged not only to take the test but to enroll in such courses.

Perhaps the most significant differences in test-taking behavior between adults and younger students is the willingness to guess. In item analyses of the ABLE data, this has been studied rather carefully. Briefly, this item analysis consists of determining the percentage of the people taking the test who mark each of the various option of the items. This is done for the total group as well as for the top and bottom twenty-seven percent on the total score. The latter two sets of figures are then used in determining the discriminating power of the item. These figures also make it possible to study the test-taking behavior of people in the top twenty-seven percent as compared to those in the bottom twenty-seven percent on the item. One of the tabulations made is the percentage of people who omit a given item. It was found that as an item becomes more difficult, the tendency for those in the low-achieving group to omit the item increases dramatically, often reaching above fifty per cent. This tendency is virtually non-existent in the top twenty-seven percent. The tendency for low achievers to omit an item rather than guess on it is clearly unique to adults. The item cards have been inspected for other achievement tests which have been taken by younger students at all achievement levels, and one is unable to find a similar guessing pattern at any grade level for the low achievers. The only adult group studied thus far that does not appear to follow this particular guessing pattern has been the Job Corps group. They appear to respond more like grade and high school students than the typical adult basic education student.

Test Reliability

Several reliability studies of the various subtests of the ABLE have been conducted. The data from these studies have been summarized in table 1 for the ABLE I and in table 2 for the ABLE II together with some standardization data.

These data indicate a rather clear trend toward increased reliability of measurement with adult groups as compared with pupils in various grades. The trend is a rather consistent one even among adult groups of very diverse backgrounds. Statistically such an increase in reliability could be caused by an increase in the variability within the groups studied. However, the data showed great stability and similarity of the standard deviation from one group to another, which leads one to believe that there is something about adults and their test-taking behavior which causes this increase in reliability. The most likely explanation seems to be the one given above — to the tendency to guess on the test. It has been mentioned that the guessing pattern of the Job Corps group lay somewhere between school pupils and adults. The fact that the reliability data from the Job Corps tends to fall between these two groups would support the notion that the increase in reliability for adults probably is related to their test-taking behavior.

The arithmetic problem soving test theoretically should be somewhat lacking in reliability, since it consists of only twenty items. Such reliability is lacking with school pupils, but appears to be adequate for an adult group. Nevertheless, the differentiation between computation and problem solving still should be used mainly to determine group differences rather than to determine an individual educational diagnosis. A test with a reliability coefficient in the eighties is adequate for group analysis, since it will yield a very stable average, but this level of reliability may not be sufficient for individual analysis of subskills. In other words reliability is a much more critical issue when diagnosing the variability among subscores for an individual than when studying the mean scores for a group on a series of subtests.

The intercorrelations among the ABLE subtests have also been determined for a variety of adult groups. It is significant that these correlation coefficients tend to be lower for adults than for younger student groups. An increase in test reliability theoretically will raise intercorrelations. The fact that the intercorrelations for the adult groups decreased would support the idea that adult data yield purer measures. There does not appear to be a ready explanation for this phenomenon, although it would appear to be a fairly well established fact. Selective forgetting may be a significant factor.

Test Norms

One of the most frequently discusses issues in adult achievement testing has been the problem of norms. Many teachers of adult basic education have expressed the opinion that grade norms are for children in the grades and that they are not suitable for adults. On the other hand, they cannot suggest any other type of norm which would yield more usable data. One of the main problems, then, in developing norms for an achievement test which measures achievement as low as the primary grades had to do with the selection of a norm group. As can be seen from data presented below, adult groups vary greatly in achievement from one subject to another, so that to establish norms on the basis of any of the adult groups that had been studied so far would certainly have been a bad mistake because it would have eradicated this intersubject variation. Practical experience with the ABLE has convinced the developers of the test that grade norms have been the most useful because most instructional materials are still designated by grade level, and teachers seem to find it easier to adjust their teaching when they know the approximate grade level at which an adult is functioning. There is, of course, the danger that the adult basic education instructor may overgeneralize and treat his adult students as he would pupils in the grades. This danger may be rather minimal. A more detailed discussion of this particular issue can be found in the ABLE test manuals.

The greatest advantage in the use of grade norms, however, appears to be that there is

TABLE 1

Saupe Estimates of K-R 20 Reliability Coefficients for the ABLE, Level I Subtests

Group/Test	Vocab.	Read.	Spell.	Comp.	Prob. Solv.	Total Arith.
School: Grade 3	.87	.93	.95	.89	.73	.85
School: Grade 4	.89	.93	.95	.91	.87	.92
Job Corps	.85	.96	.96	.93	.84	.92
Hartford-New Haven	.91	.98	.94	.96	.95	.97
N.C. Prisons*	.91	.99	.95	.89	.89	N/A
Connecticut	.95	.96	.95	.92	.85	.93
Norfolk, Va.	.91	.97	.96	.92	.86	.93

*Based on the first experimental edition

TABLE 2

Saupe Estimates of K-R 20 Reliability Coefficients for the ABLE, Level II Subtests

Group/Test	Vocab.	Read.	Spell.	Comp.	Prob. Solv.	Total Arith.
School: Grade 6	.75	.90	.96	.90	.60	.88
School: Grade 7	.84	.91	.96	.87	.79	.89
Job Corps	.82	.89	.96	.91	.83	.93
Hartford-New Haven	.91	.94	.96	.95	.90	.96
N.C. Prisons*	.88	.86	.97	.91	.87	N/A
Connecticut	.94	.95	.96	.90	.90	.94
Norfolk, Va.	.90	.87	.95	.90	.85	.92

*31 item test in experimental edition

a relatively systematic pattern of high and low scores among various adult groups, when their scores are converted to grade scores. Norming this test on an adult group would have obfuscated these patterns; the typical member of this group would have scored at the fiftieth percentile right across all subtests.

The subsequent research which has been done with the ABLE since its publication tends to support the use of grade norms. On the other hand, users of the test are strongly urged to develop local norms. This is useful in comparing a student to the overall group to which he belongs; it may also be useful in counseling the student. It is the intent of the publishers of the ABLE to publish norms for distinct groups as these are developed. One such supplementary data report is available at this time.

Adult Achievement Patterns

Table 3 presents some means for the subtests of the ABLE for seven different adult groups. These groups are (1) a public school adult basic education group; (2) a North Carolina male prison population; (3) a drug addicts' rehabilitation center; (4) the adult basic education population of the state of Connecticut; (5) adult basic education classes of Norfolk, Virginia; (6) another adult basic education center; and (7) a job center. The last column merely gives a mean of the means for these seven centers; the figures in the last column should be interpreted with caution, since they have not been weighted and they represent several heterogeneous groups.

The purpose in presenting these data is to show the rather consistent pattern of achievement found within these various adult groups. It was found that achievement ranks in the following order:

Reading (highest)
Vocabulary
Problem Solving
Computation
Spelling (lowest)

Inspection of table 3 will show that these groups follow this particular pattern with two exceptions — the job center and the drug addicts' rehabilitation center. The latter two groups differed very significantly from the other groups on the age factor. The people in these two programs both represented a very

TABLE 3

Grade Equivalents of Median Raw Scores on the ABLE II for Various Research Groups

	P.S.	N.C.	Drug Rehab.	Conn.	Norfolk	A.B.E.	Job Center	Mean Mean
Vocabulary	7.6	9.0	8.7	6.2	6.6	7.6	8.5	7.74
Reading	8.7	9.0	9.0+	6.7	7.8	8.1	8.1	8.20
Spelling	5.6	5.4	7.4	5.1	4.9	N.A.	6.4	5.80
Computation	6.4	5.8	6.0	5.8	5.8	5.6	5.5	5.84
Problem Solving	7.4	5.8	7.6	6.6	5.0	6.2	6.7	6.47
Total Arithmetic	6.6	5.9	6.6	6.1	5.8	N.A.	5.9	6.15
Number of cases	(92)	(1220)	(169)	(401)	(146)		(173)	(2321)

young population, over half of them being in their twenties. One possible conclusion that can be drawn from this difference may be that achievement deteriorates at differing rates, spelling being the skill in which the greatest loss occurs. Computation in terms of solving numerical problems that do not relate to everyday money problems seems to deteriorate almost as much. Reading skills appear to be maintained relatively well; the most likely explanation is that these people practice reading the newspaper and other materials.

In a typical school situation, these data probably would have been interpreted to mean that students need most help in spelling. In an adult situation it would seem that the primary consideration must be the social utility of a school subject. The social utility of the various school subjects would probably rank in about the same order as they rank in terms of their achievement level, so that a person who shows a normal adult achievement pattern might conceivably be considered a fairly well rounded individual for his level of functioning. The data have, of course, been exceedingly useful in pointing out the great deficiency that undereducated people have in the area of spelling.

The various adult groups studied also showed considerable difficulty with arithmetic computation problems. In order to try to gain more insight into this issue, the item data from a younger student population and from various adult groups were compared. It is of some significance to note that no particular tend appears. Other studies of achievement in arithmetic computation have found some rather significant differences between pupils in traditional and modern mathematics programs, for example. No such variations could be found when comparing adults with public school pupils.

An item study of the Arithmetic Problem Solving subtest of the ABLE proved more illuminating. A comparison of adults with public school pupils of the same achievement level indicated that the adults were much more adept at solving problems involving percentage, particularly such problems as installment buying and similar money problems. Adults also did better on problems involving mileage, both distance problems and gasoline consumption problems. There were no clear-cut reverse trends.

A final word of caution. Some research data have been discussed based on the results of a specific test. It appeared useful to compare adults and younger students, although the admonition not to test adults with a children's test appears to work in reverse here; children's performance has been discussed on an adult test. The fact that adults solve adult-type arithmetic problems better than the younger students do should not come as a great surprise. To deduce from this that adults can solve practical mathematics problems better than students of the same average achievement level may be erroneous, but hopefully this type of research should lead us toward a better understanding of adult scholastic achievement, as well as toward the establishment of adult education as a discipline.

NOTES

1. Bjorn Karlsen, Richard Madden, and Eric F. Gardner, *Adult Basic Learning Examination* (New York: Harcourt, Brace & World, 1967).

Curriculum Development and Testing

THE READING INTERESTS OF ADULT BASIC EDUCATION STUDENTS

Don A. Brown

In reviewing the problems of adult functional illiteracy and the effects of illiteracy on the society in which we live, there is an over-whelming temptation to move directly to the construction of materials, funding of programs, and hiring of teachers without consultation with those who are most centrally concerned — adult illiterates — concerning the topics which are most interesting to them.

Many programs have operated without asking about the interests of adults, and many materials have been produced for use with adults which were not constructed with adult interests in mind. In fairness it has to be admitted that people have learned to read from materials which have not been fascinating to the reader. There is pleasure in being able to decipher the printed word. No matter how mundane the material, the pleasure of accomplishment has managed to hold many learners for a long time.

Adult basic education students are amazingly patient, for the most part, and they are usually willing to accept whatever the teacher says without question, at least in the area of education. If the teacher says that a certain group of materials represents *the way* to learn to read, ABE students are most often quite willing to submit themselves to the materials — even if the first words are "Look, Spot," or if the first page contains nothing more than an introduction to the "groan and moan" system of learning to read starting with "ba-, be-, bi-, bo-, bu-."

Teachers themselves have often been confused. Some teachers maintain it makes no difference whether or not meaningful or adult materials are used with adult illiterates because the students have not objected to meaningless child-oriented materials when they were used in class. On visiting the classes of some teachers, one can observe reading circles of adults manning children's reading books and following the teacher assiduously reading "Dick and Jane help Father."

Other teachers feel that reading can be reduced to almost mathematical formulations. If *a* equals "a," *ba* equals "ba," and *bat* equals "bat," then these teachers would reason that certainly it follows that all there is to learning to read is "breaking the code," "grapheme-phoneme" relationships, or linguistics reduced to a series of phonological principals. If true, then there really can be no objection to forgetting about the role of the interests of adults in teaching reading. If people really learn to read effectively by simply mastering the relationships between sounds and letters either by drill or by some systemized method of sequential organization of learning, then everything but phonic drill sheets or instructional workbooks prepared by phonologically oriented linguists should be forgotten.

Reading is far too complicated a process to be solved so easily. In addition, the student is the learner and cannot be relegated to such an unimportant role in the learning process. Without the interest of the student, there will be little learning.

Hayes has done a considerable amount of research and writing in the area of psycholinguistics.[1] In a recent informal presentation he outlined a model of psycholinguistic behavior in which he endeavored to describe the processes by which a person might be able to learn from communication with others. It was interesting to note that one comment bore directly on the problem of interest. Hayes pointed out that if the teacher did not have the attention of the student, it would be virtually impossible for him to teach the student the concept he wanted to teach, although the student might have everything else necessary for learning. It would seem that the best organized and most neatly sequenced teaching program may fail if it fails to capture the interest of those who are to be instructed. If adults are to be taught how to read, their attention and interest must be held.

It has already been pointed out that the novelty of trying to decipher the written word can be sufficiently interesting to some students to hold their interest at least for a time. A forceful or dynamic teacher can hold the attention of a class for weeks. But one might suggest that the most important factor in attracting and holding interest is the material which is used for instruction. If it is meaningful to the students; if it seems to have value for them; if it is constructed to be of interest to them, students will be far more likely to maintain the level of interest and attention necessary to good learning.

The Buffalo Study

Two years ago the State University of Buffalo Reading Research Center initiated a study under a grant from the U.S. Office of Education which was designed in part to discover the interests of adult city core functional illiterates.[2] One-hundred seventy-four adults who had been tested with a standardized reading test and found to be reading below a 3.0 grade level equivalent, were tested with a forced-choice "reading associated interest" inventory. Book titles were composed to represen⁺ six major categories of reading interest:(1) children's stories, animal stories, humor; (2) sociology, history, civics; (3) family and self improvement, jobs, health; (4) religion; (5) sports, adventure, travel; and (6) science. Of the sixty titles used there were ten for each category, which provided for each category to be matched against each other category twice. No title appeared more than one time in the inventory.

Subjects were asked to listen as each pair of titles was read and indicate which of the two titles they would prefer to read if they were able. Titles were repeated as many times as necessary for clarity, and although the process proved to be somewhat tedious, the subjects cooperated.

Although with any self-report instrument there is a risk that the subjects are merely repeating preferences they feel the examiners want to hear, there is some reason to believe that the students in this study were candid. Results from the first and second halves of the instrument were highly correlated, indicating consistent responses on the part of the subject throughout the instrument. There was a high degree of consistency in the responses of the subjects tested by different examiners. The results which were obtained by the inventory strongly agreed with results obtained after a year of experimental instruction by individual interviews with a group of 40 students. The students were asked what they had enjoyed reading most, and their suggestions were solicited for additional reading topics to be used the following year. Excellent rapport had been established with this instructional group of students, and their responses — which agree with the inventory of reading associated interests — probably represent an unbiased reflection of their reading interests.

A consistency check was made of the classification of titles into the various interest categories. Five of the six Reading Research Center staff members separately sorted the titles into interest categories. Four staff members concurred on all titles, and five staff members concurred on all but four of the sixty titles.

The following are examples of the titles used for each category.

Category 1 (children, animals, humor): "A Surprise for Dick and Jane," "Jokes and Funny Stories," "Animals I Like."

Category 2 (sociology, history, and civics): "Bombs, Bullets, and Bread," "These Are Your Rights," "Lincoln, Man of Peace."

Category 3 (family and self-improvement, jobs, and health): "How to Raise Children," "Better Health and Longer Life," "Train Yourself for a Better Job."

Category 4 (religion): "Being a Better Christian," "Stories of the Bible," "The Life of Jesus."

Category 5 (sports, adventure, and travel): "Let's Go To Hawaii," "Touchdown," "Lost in a Cave."

Category 6 (science): "What Makes it Rain," "The Dinosaur Book," "How Science Saves Lives."

Before the collection of data it was presumed that one of the most highly preferred categories would be sports, adventure, and travel, since this seems to be an area of such great interest to remedial readers at the secondary level. It was also supposed that titles dealing with humor and animals would be of interest to adult city-core illiterates, largely Negro, who are often believed to be particularly blessed with a good sense of humor, and largely from rural backgrounds where contact with animals would be likely. Table 1 indicates the lack of success in predicting these

Table 1
Choice Between Matched Pairs of Titles from Each Category

Category Number	2	3	4	5	6
1	11/89	18/82	8/92	24/76	43/57
2		22/78	24/76	79/21	52/48
3			58/42	88/12	95/5
4				93/6	63/37
5					52/48

Note: The percentage of subjects choosing categories in the rows of the table are represented by the figures to the left of the slash mark; the percentage choosing categories in the columns are at the right of the slash mark. N = 174.

Categories:
1 – Children's stories, animal stories, and humor
2 – Sociological, historical, and civic titles
3 – Family and self-improvement, jobs, health
4 – Religion
5 – Sports, adventure, and travel
6 – Science and math

outcomes. Subjects had a forced choice between matched pairs of titles representing each of the categories.

When the first category representing children's stories, animal stories, and humor was compared with the other five categories, it was found to be less favored in every instance. Only titles from the area of science come near in lack of popularity and six out of each ten preferred science to children, animals, and humor.

When category 2 was compared with the remaining categories, the students preferred sociological, historical, and civic titles not only to titles in category 1, but to those in sports, adventure, and travel as well. The sociological titles were less favored, however, than titles drawn from category 3, family and self-improvement, jobs, and health; and category 4, religion. There were no significant differences between preferences for sociological titles when compared with category 6, science.

The comparison of category 3, family and self-improvement, jobs, and health, with the other categories showed a preference in every instance with its closest competitor being category 4, religion. Approximately, six out of ten respondents preferred category 3 to category 4.

The fourth category, religion, was preferred by the subjects in each comparison except category 3, family and self-improvement, as previously mentioned.

Category 5, sports, adventure, and travel, was almost as little in favor as category 1, children, animals, and humor, being selected more frequently than that category, but less frequently than categories 2, 3, and 4. There was no preference when compared to category 6, science.

Category 6 was slightly favored over category 1, children, animals, and humor, but was less frequently chosen than categories 3, family and self-improvement, and 4, religion. There was no significant preference in comparisons between category 6 and categories 2, sociological, and 5, sports, adventure, and travel.

In descending order, the adults interviewed in the Buffalo research preferred the following interest categories:

3 - Family and self-improvement, jobs, and health

4 - Religion

2 - Sociology, history, and civics

6 - Science

5 - Sports, adventure, and travel

1 - Children, animals, and humor

In the quartile of titles most frequently chosen the titles from category 3, family and self-improvement, were always chosen, in sharp contrast to category 1, children, animals, and humor, from which not a single title was listed among the fifteen most popular titles.

Table 2

Titles Chosen at Least Ninety Percent of the Time

Percentage of Choice	Title	Category
97	Train Yourself for a Better Job	3
97	Being a Better Christian	4
94	Stories of the Bible	4
94	Better Health and Longer Life	3
93	Our Greatest President	2
91	Lincoln, Man of Peace	2
91	The Ladder to Heaven	4
91	How to Eat Better	3
90	A Job I Liked	3

Table 3

Titles Chosen Less Than Ten Per rent of the Time

Percentage of Choice	Title	Category
3	The Witch in the Forest	1
3	The Dinosaur Book	6
6	The Winning Team	5
6	Fun With Numbers	6
7	Dead Man's Treasure	5
7	Floating Down the Mississippi	5
9	Puff Gets Lost	1
9	Lost in a Cave	5

Examples of the titles which were chosen at least ninety percent of the time are listed in table 2.

Titles which were chosen less than ten percent of the time are listed in table 3.

An examination of the responses made by men and women showed a great deal of similarity in their preferences. Although the degree to which they preferred titles varied, they seldom disagreed on which title in each pair was more interesting to them. The only exception concerned the choice between the titles "Learn to Fix TV Sets" and Missionaries Paul and Silas." The men preferred the former while the women preferred the latter. It is of interest that both sexes favored such titles as "Experiments With Electricity" and "Ways to Improve Your Appearance," although the men slightly favored the former, and the women, the latter to some degree.

Control Groups

Three control groups were established for the study composed of 96 literate adults living in the city-core area, 94 first grade children living in suburban or fringe areas, and 114 first grade children living in the city-core area. Each of the three groups was tested for their preferences using the same cities as the experimental group.

The literate adult group was similar to the illiterate adult experimental population in evidencing low interest in titles chosen from the category 1, children, animals, and humor. The city-core child group, interestingly enough, showed a general mild preference for this category but the fringe-area child sample mildly disapproved of category 1.

The category 2, sociological, historical, and civic, provoked mild approval from the literate adults, approval by only half of the illiterate adult experimental sample, and a lack of acceptance by the two groups of children. Both adult groups showed a strong preference for titles from category 3, concerned with family and self-improvement, jobs, and health. They were joined in this preferency by the city-core child group, but not by the suburban and fringe area child sample.

Category 4, religion, was found to be attractive to all three city-core groups, adult illiterate, adult literate, and child, while the **suburban** children generally preferred not to read religious titles. Neither of the two adult groups expressed interest in titles from category 5, sports, adventure, and travel, and the city-core children's group showed no significant preference when choosing titles matched against this category. The fringe-area child on the other hand, showed a mild preference for titles about sports, adventure, and travel.

The illiterate adults and city-core children both preferred not to read category 6 (science) titles; the literate adult group showed no significant preference; but the fringe-area child population listed science as preferred reading material.

The most clear-cut finding of this portion of the study is the strongly significant agreement between the two adult groups. In twenty-eight of the thirty chances for agreement or disagreement, the two adult groups agreed on the categories they felt were more interesting.

The fringe-area child and the city-core child groups, on the other hand, agreed with the adult illiterate group only sixteen and seventeen times, respectively. It is obvious that illiterate adults are much closer to other adults in their interests than they are to the interests of children who may be learning to read. If ABE teachers hope to teach adults to read in the most effective manner, gaining and holding their attention, they ought not to use children's materials.

Implications

The preference of the 174 adult illiterates showed the greatest interest in titles of a utilitarian nature. The illiterate adult is not interested in reading materials which have no value for him. For many years those in reading education have tended to mouth a catchy phrase, "First you learn to read, and then you read to learn." However, adult illiterates want utilitarian value from the outset of their reading instruction. They seem to feel that they have already lost too many years in gaining an education. They want to learn to read so they can find or hold better jobs, take better care of themselves and their families, dress better, cook better, take part in their church services, and generally learn more. They are not interested in children's fantasy, nor are they interested in the adult equivalent of childish fantasy — sports, adventure, and travel. Although they are not without humor, the adult students in this study did not want to learn to read in order to catch up on interesting anecdotes. They were more interested in increasing their knowledge of American and Negro history and heroes.

In a sense, the illiterate adult is a person in a hurry. Instruction which may be without personal value to him in terms of information gained may be tolerated but not eagerly sought for. Part of the problem in educating the functionally illiterate adult lies in the fact that he often feels "uninvolved." He often has found his environment to be threatening; had difficulty signing his name, reading street signs, ordering from a menu, or reading a letter from home. If he has objected to the amount the storekeeper gave him in cashing his check, he may have found himself in the serious predicament of having to locate someone else who will recognize him and cash his checks for him. He has had to be careful of his environment. He seldom has expressed himself very strongly to authority figures such as teachers. Far from being a troublemaker in class, he is usually too passive to involve himself adequately in learning.

It becomes imperative, therefore, that educators find and utilize materials which are of interest to ABE students. ABE teachers must draw out their students, involve them, help them to realize their goals of family and self-improvement and greater participation in their society. Without this involvement, literacy programs will be less than effective. With such interest and involvement literacy programs will pass into the hands of those who should possess it — the students themselves. This way lies success.

NOTES

1. David Hayes, "Linguistic Problems of Denotation," paper delivered at the Xth International Congress of Linguists, Bucharest, Aug. 28th-Sept. 2, 1967, available through the Rand Corporation, Santa Monica, Calif.

2. Don A. Brown and Anabel Newman, *A Literacy Program for Adult City-Core Illiterates: A Final Report,* Project No. 6-1136 (Buffalo, N. Y.: State University of New York at Buffalo, 1968).

READING AND ABE: WHAT WE KNOW, WHAT WE NEED TO KNOW

Wayne Otto

In preparing this paper the intent was to limit its scope to the reading aspect of ABE, however, such a delimitation is is not completely realistic. The writer is a reading specialist with a set of biases, the most prominent of which is the belief that in adult basic education reading is most basic. The prejudice of the reading specialist is to break the reading task into its component skills and get on with the task of teaching the skills in some sensible sequence. However, one must recognize the fact that each adult who comes to the learning situation has certain qualities in common with other adults and other qualities that are unique to him as a person. The reader must be considered just as carefully as the reading task.

Reading is not a content area. If one is to read, he must read about something; and the moment he decides what that something is to be, he has gone beyond the strict skill development aspect of reading. The total context of the ABE program should be considered in selecting content for reading, even at the very early stages of skill development. Thus, while the primary focus in this paper is upon reading as the basic in adult basic education, the adult and his education continue to provide the context.

The dual question implied by the title of this paper invites an extremely simplistic response: We know almost nothing if research results are the accepted bases for knowing and, by that criterion, we have yet to learn the most fundamental kinds of things regarding reading in ABE. Yet the paradoxical fact is that materials have been written, instructional programs have been designed, and illiterate adults have been taught and continue to be taught how to read. Practitioners, unable to afford the luxury of waiting for the establishment of a research base, have made decisions based upon experience, judgment, and intuition and they have gotten on with the task, often with remarkable success, of teaching adults to read. The paradox is particularly striking if one looks only at the conglomerate of research results in the general area of reading; that is, for all ages and achievement levels, not just illiterate adults. The most tenable implication of such a review would be that learning to read is an infinitely complex task at which virtually everyone is ordained to fail. Nevertheless, given even mediocre instruction most manage somehow to muddle through.

The suggestion here is not that research ought to be abandoned. Perhaps what is yet to be can be vastly better than what is. Researchers should tackle the task without feeling constrained by things as they are. However, those interested in adult developmental reading should not be too quick to condemn and dismiss when a solid base of research does not exist.

WHAT WE KNOW

Knox recently reviewed the research and evaluation studies conducted in the United States and Canada related to educational programs designed to increase adult literacy.[1] At the outset he pointed out, "In most literacy campaigns throughout the world, the overwhelming emphasis has been on operational procedures with very little research or systematic evaluation."[2] After reviewing fifty-one studies, he concluded, "There are few conclusions or generalizations regarding Adult Basic Education that are supported by the available research."[3] However, he did give some generalizations in the form of hypotheses for further testing that bear restatement and comment here.[4]

1. "Most illiterate adults can make substantial progress towards functional literacy if at least minimal procedures and adequate time and moderate interest are available."

This seems to be a particularly defensible generalization. There is ample evidence — some specific studies are reviewed later — that well-conceived literacy programs pay off.

2. "Adults with low levels of literacy tend to have reading proficiency that is two or three years below their grade level at school learning."

The point is well taken. Years in school are generally a poor index of literacy, and this index is particularly poor with adults of low literacy. Another important point inherent here is that adults who are functionally illiterate are not necessarily the unschooled. Many of them have spent years in school and they need corrective or remedial help more than they need beginning reading instruction. If the latter observation is sound, then one of the most important things the field needs to know is how to take advantage of what the functionally illiterate adult already knows. The following generalization is closely related.

3. "There are few tests that have been developed or adapted for use with illiterate adults. The lack of tests or norms for adults with low literacy that can be used for diagnosis, assessing ability, and criterion measures regarding achievement is a major restriction on both program effectiveness and research."

This, of course, is not a research finding but an observation derived from a review of the existing studies. What we know, then, is that we have a very real need to know more.

4. "In spite of recently published materials, there is still a lack of appropriate materials for ABE which have high interest levels but low reading difficulty levels."

While there would be little quarrel with the first three generalizations, some workers would take at least partial exception to the fourth. Certainly more and better materials are available. Lists, with subjective evaluations, have been published recently by Barnes and Hendrickson; Otto and Ford; Smith; and Minkoff.[5] What is needed even more than additional materials is reasonably efficient means for putting the most appropriate of the existing materials into the hands of each adult learner.

5. "There is little evidence of the relative effectiveness for various purposes of the various instructional systems that have been developed for ABE."

The generalization is sound. The few studies that have been done are limited to comparisons of the effects of different instructional systems with essentially similar samples of adult illiterates. There is no questioning the appeal of the notion that ABE ought to be able to identify a best instructional system to do a certain specific job with a certain specific group of adults, yet the writer seriously questions whether such a goal is reasonably attainable. Researchers have spent countless hours and countless dollars trying to identify the best methods and materials for teaching elementary pupils to read and they have failed not only to come to any definite conclusions but also to come to any agreement as to what steps ought to be taken next. The resources in ABE can be channeled to activities more promising than the endless quest for the best method for the most people. Remedial reading teachers do some of their most effective work with the driver's manual, the telephone book, and the Sears, Roebuck catalog. They can do it because they know their students.

6. "When teachers carefully follow an instructional system, there is little evidence that levels of teachers education are associated with learner progress."

There is some research support for this generalization; but, probably more important, it has the unequivocal support of logic. If teachers do, in fact, carefully and faithfully follow the dictates of an instructional system, then the teaching should be reduced to the common denominator of the instructional system. This is not a cause for rejoicing, because the teacher is an integral, contributing part of the instructional sequence.

As Knox pointed out, the generalization/hypotheses he derived from his review of the literature might have been made by thoughtful practitioners without the benefit of the existing research.[6] ABE is still at a point where each new piece of research is likely to give rise to more questions than answers. A review of some specific studies that focus upon reading in ABE will demonstrate that point. More important, it will demonstrate the type of research base for what is now known. Studies of the effects of literacy training programs will be reviewed first, then comparisons of methods for teaching illiterate adults to read, and finally, selected studies of a total ABE program and of ABE teachers.

Effects of Literacy Training

Studies reported from three representative areas — private industry, public education, and the Army — are reviewed here.

Ball described and evaluated a course in basic education offered at the Chicago Argo Plant of Corn Products as a part of the Methods of Intellectual Development (MIND) project of The National Association of Manufacturers.[7] The 160-hour course was designed to increase the reading, spelling, and arithmetic achievement of participants by four grade levels. The participants, Argo employees, attended sessions before or after work shifts on their own time. Training costs were paid by Corn Products. Word meaning, spelling, and arithmetic computation subtests of the Stanford Intermediate Battery were used to assess educational levels. The members of the group of thirty-eight men, on the average, were forty-two years of age, had completed eight years of school, were performing at the fourth to fifth grade level in reading and arithmetic, and had been with Argo for fifteen years.

The program was conducted from June to December, 1966. Scheduling difficulties cut the instructional time from the anticipated 160 hours to 79 hours. In terms of mean test scores, the group gained the equivalent of 2.6 school grades in word knowledge, 2.2 grades in spelling, and 3.2 grades in arithmetic. The gains appeared to accumulate at a steady pace throughout the program. Men whose initial achievement was at the third grade level or lower gained the least; whereas, men whose achievement was at the fourth to eighth grade level gained the most. There was no evidence that the teachers in the program differed in effectiveness. In terms of job qualifications, the participants improved according to the company's qualification check test, and the conclusion was that the men were in a better position to compete for upgrading in the company. General conclusions were that: (1) the participants, according to interviews and subjective impressions, were enthusiastic about the program; and (2) the program offered a viable means for rapidly upgrading the educational levels of employees and job applicants.

A Norfolk State College demonstration project in which a group of hard-core unemployed, unskilled workers were given both vocational training and general education was described by Brooks.[8] An unusually sophisticated design was employed to evaluate the training program. Fifty men were assigned to each of four groups: (1) a control group, for which nothing was done; (2) a subsidiary control group to test the Hawthorne effect, who were brought in on a bimonthly basis for guidance and occupational information; (3) a subsidiary experimental group which was given vocational training only; and (4) an experimental group which was given intensive instruction in general education, including language arts, number skills, occupational information, and human relations, in addition to the same vocational training given to the subsidiary experimental group. The functionally illiterate men in the experimental group gained, on the average, 1.87 years of reading ability in the first six months of instruction. The conclusion was that general education meshed with vocational training and resulted in an effective training program for the hard-core unemployed. Placement and on-the-job follow-up exceeded expectations.

Much has been written about the Army program for training illiterates during World War II. The program was both massive and remarkably successful. A description and evaluation of the program that was published in 1951 can be briefly summarized here.[9]

The Army program was designed for illiterate, non-English-speaking and Category V men and it was officially in operation from the middle of 1941 through December, 1945.[10] Of the participants initially reading at the first grade level, 61.6 percent were taught to read at the fourth grade level in twelve to sixteen weeks. Those who initially placed at higher achievement levels made even more rapid progress. Justifiably, then, the program was judged to be highly successful for its intended purpose; but, of course, the program had a number of attributes that are not present in civiliam programs.

Special features of the program that would appear to have had a particularly significant effect in the program or upon its positive evaluation follow.

1. The situation provided strong incentives, for example, the ability to read letters from home and to write letters home.
2. The Army exercised control over the participants twenty-four hours a day.
3. The military establishment had access to almost unlimited funds during the war.
4. Qualified instructors and supervisory personnel were readily available.
5. The training of illiterates was a new venture for the Army, so there was no need to struggle with an establishment or with troublesome precedents.
6. Only those men felt to have sufficient mental capacity to benefit from literacy training were accepted, and those who did not progress in the expected manner were honorably discharged from the service — indulgences not available in most civilian programs, of course.

7. Special instructional materials and training aids were developed specifically for the program and a counseling program was provided.
8. The pupil-instructor ratio was fifteen to one in the academic classes.
9. The training was systematically appraised through a monthly reporting system and continuous in-service training of instructors and supervisors was provided.
10. The goal of the program was achievement at the fourth grade level. Most professionals would agree that such a goal would be unrealistically low for civilian ABE programs at the present time.

Adequate financial support, availability of qualified staff, and resources to develop materials specifically for the program would appear to have contributed substantially to the success of the program. Each of these factors is, at least in theory, available to a civilian literacy effort. On the other hand, civilian programs need to spend more time on motivation, the integration of literacy skills with econimic and social adjustment, and the attainment of higher achievement levels. Finally, Goldberg pointed out that the Army had no follow-up program. He recommended that civilian programs devise a follow-up system, limited to mail-outs of reading materials if necessary, to insure that newly acquired skills are used.

Taken together, the three studies demonstrate the positive results that can be obtained when adequate resources are brought to bear. Other studies of specific programs have, of course, been reported and the continued reporting of similar studies is to be encouraged. Aside from establishing a base line of demonstrated success, the reporting of such studies puts experiences on record for the guidance of those who follow. Some examples of worthwhile observations from three recently reported studies are: (1) the Oakland Public Schools Research Department had difficulty with the evaluation of a neighborhood center program because of the ceiling effect imposed by the posttest employed.[11] The observation reflects a general concern about the limitations of the ABE test in use; (2) Walther and Ferguson reported good results from an "area-of-interest" approach to reaching students in literacy classes, which could be the first step toward programs that attract and motivate students by appealing to special interests and extrinsic motivation;[12] and (3) Patten and Clark reported that the initial teaching alphabet (i/t/a) approach was effective in improving the reading achievement of adults below the fourth grade ability level.[13]

What do we know now? We know that illiterate adults can learn to read. We need to know more about the specifics in order to improve the efficiency of their learning.

Comparisons of Methods

As noted earlier, little is now known about the relative effectiveness for different purposes of the various instructional systems that have been developed. The studies reviewed here represent attempts to learn more about the effectiveness of different instructional approaches. Some of them have been very modest in scope, but at least one has taken the broad view and yielded a number of worthwhile implications for practice and for further study.

A comparison of methods was included in the evaluation report of the Basic Education Demonstration Program conducted in Wayne County, Michigan.[14] Teachers in the exploratory project were given latitude to adjust their methods to the needs of their illiterate and functionally illiterate adult students, but two basic approaches to the teaching of reading were employed; an approach in which the initial teaching alphabet (i/t/a) was used, and an approach confined to the use of traditional orthography (t.o.). The forty-eight adults who completed the course, which met for three hours a day, five days a week for eight weeks, had a mean age of forty-four years and a median years of school completed of 5.5. Conclusions and recommendations most relevant to reading were as follows:

1. Eight weeks is not sufficient time for a basic education program.
2. The participants were unemployed Negro males, many from the rural South. The differences in the dialects of participants and teachers was felt to present a major problem.
3. The participation of students in a basic education program should be justified in terms of their capacity for probable growth. This is a recurring theme in the ABE literature. Actually, there is no reason to expect slow learners to respond any more positively to compacted adult literacy courses than they do to instruction in the public schools. Potential participants in basic education programs should be care-

fully screened and they should be assigned to differentiated programs where the pace and expectations are adapted to their capacities.

4. Testing is necessary to assess students' capacity for educational growth at the program's end. Participants should not be abandoned at the end of a program. Those with the capacity for more growth at least should be identified.
5. Extensive preprogram training should be conducted for the instructional staff regardless of academic background and teaching experience.
6. The i/t/a approach facilitates the teaching of reading to illiterate and functionally illiterate adults. The t.o. approach tends to satisfy the needs of adults with a preinstructional achievement level of fourth grade or better.
7. Teacher-developed materials are a must for any program because they can meet immediate needs better than published materials.
8. A qualified person should be responsible for developing and administering intermittent tests in reading and arithmetic. Data from such tests should provide a constant check upon both group and individual progress.

Henney reported a study designed to determine: (1) the extent to which functionally illiterate adults can increase their reading performance with special reading instruction by a phonic method, and (2) whether subjects taught individually and in groups will differ in reading gains.[15] The subjects, all inmates at a state reformatory, were assigned to one of three matched groups. Experimental Group I received reading instruction by a phonics method one hour each day for twenty sessions in a group situation. Experimental Group II received instruction of the same type and duration but on an individual basis. The control group attended the regular elementary classes at the institution. General reading was pretested and posttested with the *Gray Oral Reading Test*, and specific difficulties were examined with the *Gates-McKillop Reading Diagnostic Tests*.[16] Conclusions were as follows:

1. Age, IQ, and beginning reading level do not affect the progress and rate of improvement in reading performance of functionally illiterate adults. This conclusion is based upon the results of this particular study. It is not completely in accord with the conclusions reached by other investigators.
2. The family phonics system is an effective tool for improving the reading ability of functionally illiterate adults.
3. The system is as effective in a group situation as in an individual teaching situation.

Steuart compared the effectiveness of two widely used instructional systems with Spanish-speaking adults who were functionally illiterate in English.[17] The seventy subjects were enrolled in two separate ABE programs, and half of the enrollers from each program were assigned to each treatment. Approximately fifty hours of instruction designed to build literacy in English as a second language was given. The two instructional systems employed were the *Programmed Reading for Adults*, characterized as a linguistic approach, and the *Mott Basic Language Skills Program*, characterized as an analytic phonics approach at the lower levels.[18] Salient conclusions were as follows:

1. The Mott and Sullivan programs are both effective in teaching functionally illiterate adults English as a second language.
2. Despite the divergence in the format and content of the two programs, they were equally effective.
3. On the average, the greater a subject's initial competence in English, the greater his mean gain on the posttest measure of reading ability.

Heding reported a study designed to examine the effectiveness of materials developed at three levels of difficulty to provide a transition from i/t/a to t.o.[19] Although student gains in reading after ninety hours of instruction were negligible, the study represents an attempt to evaluate the effectiveness of materials developed for a specific purpose with a specific group. Such efforts are needed. Krebs described an action-research effort to examine the effectiveness of a small group programmed approach and an eclectic, volunteer tutor approach to teaching reading skills to illiterate adults.[20] Again, the study represents an attempt to examine the effectiveness of local efforts.

The most extensive and widely cited field test of ABE materials was conducted by Greenleigh and Associates.[21] Griffith has pointed out a number of limitations of the study, for example, neither the participants nor the teachers in the study were chosen at random, adequate control groups were not included, and a substantial number of the general findings reported are in fact observations or subjective generalizations.[22] However, he has also pointed out its considerable value, ". . . within this report the careful reader will find some information on virtually every variable which must be considered in rigorous research on adult basic education."[23] The study merits detailed review and comment here.

The general purpose of the study was to evaluate the effectiveness of four widely-used, commercially-prepared systems for teaching reading to economically dependent adults eighteen years of age or older with reading ability below the fifth grade level. The four systems were: (1) *Learning to Read and Spell, (2) Reading in High Gear,* (3) *Mott Basic Language Skills Program,* and (4) *Systems for Success.*[24] The systems were implemented by teachers with three distinctly different backgrounds of preparation: (1) trained teachers, preferably experienced in adult education, (2) college graduates, and (3) high school graduates. Each of the teachers was given preservice orientation and training conducted by a representative of the publisher with the peculiar system he would be using.

The field test was conducted in three states, New York, New Jersey and California. In each state three classes for each of the four systems were set up and taught by teachers from each of the three levels of preparation designated. Thus, there were thirty-six classes with an initially anticipated total enrollment of 540 in each state, but actual enrollments tended to vary by state. The classes met for five hours a day, five days a week, for seventeen weeks. The *Iowa Tests of Basic Skills and the Gray Oral Reading Test* were used at the beginning, midpoint, and end of the training to measure progress in reading.[25] In addition, questionnaires and periodic observations were used to obtain data on attitudes, classroom practices, and other variables.

Twenty major findings were listed in the report; but, as Griffith pointed out, more than half of them were observations and subjective generalizations rather than results derived directly from analyses of the data. The following summary rearranges and combines conclusions with this writer's comments.

1. Virtually all of the students made some gains in reading; but there were no significant differences in student gain scores by system. While some of the students taught by each system improved to the eighth grade level in reading, none of the four systems employed brought the majority of students to that level in the seventeen weeks alloted.

2. There were no significant differences in Gray Oral gain scores attributable to the level of teacher preparation. There were, however, significant differences by teacher-level on certain Iowa subtests, and in each instance the difference favored the high-school-graduate teacher. It is interesting to note that on the basis of observations, the certified teachers were most skillful in dealing with learning problems, grouping students, and class management. While the research design restricted teachers to the publisher's instructions, two of the systems encourage teacher innovation and the use of supplementary materials. Nevertheless, the certified teachers using those systems did not produce significantly greater gains. Thus, the report questions the relative importance of accepted class management techniques in teaching adult basic literacy classes. Another finding given in the report, however, is that teachers need more supervision and in-service training than they received during the field test. Apparently there was some feeling that teachers have something to contribute to the learning process. The writer wonders what would have happened if a group of experienced teachers had been permitted to adapt the system used freely and to proceed on an individualized basis. The writer also wonders about the influence of the fact that most of the successful high-school-level teachers were Negro as were most of the participants. Certainly there is a great need for clarification of the teacher's role in ABE classes.

3. Gains were assessed by instruments not standardized with ABE students. The judgment of both teachers and observers was that actual gains were in excess of the gains indicated by the tests employed. There were other findings regarding tests: (a) the achievement and intelligence tests used were not geared to the knowledge base of the ABE group; (b) paper-and-pencil tests, particularly those with IBM response sheets, appeared threatening and difficult to use, despite the fact that

the teachers had received careful training in the administration of the tests from a publisher's representative; (c) there is need to teach ABE students how to take paper-and-pencil tests for such tests are encountered frequently in seeking employment.

4. There was a significant positive relationship between initial and final Gray and Iowa composite scores. There was a highly significant correlation between final Gray scores and gain scores, but no significant relationship between initial Gray scores and gain scores. Students who scored highest on the posttest made the greatest gains, but the gains were not predictable from pretest scores.
5. Students were almost unanimous in expressing appreciation of their teachers. The majority expressed appreciation for the opportunity to learn basic literacy skills. Most approved of the reading system and the stories to which they were exposed. The conclusion in the report was that students want to read standard English and about things "the teacher knows," not necessarily about things they themselves know. Perhaps most important of all, there was evidence from the interviews that the students had learned that they could learn and that the classes had a positive effect upon out-side-of class behavior.
6. A number of other findings had to do with funding, support of participants, and other program management matters.

In addition, a number of recommendations were made in the Greenleigh report. Some of them will be considered in the discussion of what needs to be known about reading in adult basic education.

The Greenleigh group has also reported on an evaluation of an entire state program of ABE.[26] Because some of the recommendations from that report are relevant to reading instruction, it merits review here.

Evaluation of a State Program

In 1964 Greenleigh and Associates conducted an evaluative study of the ABE programs in the state of Illinois. Students, teachers, caseworkers, principals, and head teachers in ABE programs in five counties were interviewed. Of the twenty recommendations, those most relevant to reading are summarized below with comment.

1. Local school systems ought to place high priority on replacing evening programs with day programs. Provision of day programs could help to solve logistical problems for women in particular; but all participants would probably be better able to respond to instruction during the day rather than after the fatiguing activities of the day.
2. Local school personnel must evaluate the educational potential of ABE students carefully and be ready to develop special classes for the retarded and for other students with special learning problems. The need for adequate evaluation techniques and instruments is acute. Efficient placement and instruction of pupils can proceed only from adequate evaluation.
3. Specific criteria to assist in better teacher selection are needed. In-service training and supervision are required. ABE teachers should be paid at a somewhat higher rate than normal. The need to consider the role of the teacher was noted earlier. A survey of special problems of ABE teachers is reviewed in the next section of this paper.
4. All new students should have a physical examination before they enter the ABE program, or, at the very least, vision and hearing tests. Information regarding vision and hearing is particularly relevant as an antecedent to reading instruction. Provision for the correction of difficulties should be made; and if correction is not possible, then adaptations in instruction must be made.

Problems of ABE Teachers

Marshall and Copley conducted a questionnaire study to determine the problems perceived by ABE teachers.[27] Fifteen active ABE teachers were queried. These teachers were mainly concerned about how to go about fitting instruction to the needs of the adult student. More specifically, they focused upon: (1) finding and devising a suitable curriculum, (2) procedures for fitting instruction to the background of individuals, (3) how to find time in the school day to work on curriculum development, and (4) approaches to the diagnosis of learning strengths and weaknesses and to the prescription of instruction. The investigators concluded that the teachers saw the several problem areas as being of equal importance, and they suggested

Table 1

Adult Learning Characteristics

Adult Characteristics as Compared to Children	Implications For Teaching Reading to Adults
Less acute senses of hearing and sight	Develop auditory and visual screening tests for adults. Establish minimum levels required to respond to regular instruction. Develop adapted programs for adults with visual and/or auditory defects that cannot be completly corrected.
Slower to learn	Establish guidelines for the realistic pacing of instructions.
Less flexible	Devise instructional programs that strike a balance between structure and self direction
More self conscious, more apprehensive, and feel more anxiety	Develop adequate assessment techniques to insure correct initial placement and subsequent success. Develop acceptable techniques for providing positive feedback
Feel a greater need for education, higher motivation to achieve specific goals, needs which are immediate and concrete	Determine interests and provide appropriate materials and learning experiences Establish optimum motivational techniques for adults, taking care not to push motivation to the point of anxiety Develop techniques for teaching study skills and providing for application in useful situations
Wider range of experience	Develop check lists and other techniques that will permit teachers to make optimum use of prior experiences Develop adult materials which capitalize on the experience base Establish guidelines to assist teachers in developing materials based on experiences

Source: George F. Aker, "Attributes of the Adult Affecting the ABE Program," The Adult Basic Education Curriculum and Its Development, eds. Irwin R. Jahns and Henry C. Brady (Tallahassee: Florida State University, Department of Adult Education, 1968), pp. 37-38.

that the problems could be dealt with effectively in teacher reorientation workshops.

Although the sample size was very small, the problems identified are by no means small, nor does it seem realistic to dismiss these problems as the kind of minor problems that can be handled satisfactorily in local, short-term workshops. The problems are, in fact, the very ones that continue to plague elementary school teachers, who not only have many more resources to draw from, but also, as a rule, have more specific training for their job and more specific experience on the job. Indeed, what we need to know in ABE is what will help teachers to solve these very problems!

A Final Word

The question is what we know and what we need to know about reading and adult basic education. The answer seems to be that what we know best at the present time is that we need to know a great deal more! The existing research base is neither broad nor deep. Nevertheless, enough is known now to enable practitioners and researchers to identify and to tackle the most pressing problems regarding reading in ABE. Furthermore, a number of things about the adult as a learner and about reading as a sequence of skills are known that can enable the field to bypass rediscovery of certain basics. Instead of rediscovering, professionals in ABE can concentrate on application and adaptation in teaching adults to read.

WHAT WE NEED TO KNOW

To make a transition from what we know to what we need to know, let us consider some of the things known about the adult as a learner and examine the implications regarding what needs to be known in order to teach him efficiently to read. The characteristics given in table 1 are from a list compiled by Aker in the context of an institute on adult basic education.[28] The contrast of the adult as a learner with the child as a learner is appropriate because there have been many attempts to use with adults techniques and materials developed for children. Perhaps it is efficient to use at least some of the existing techniques and materials, but the kinds and degrees of adaptations that are needed to make them most palatable and maximally useful to adults need to be known.

The analysis shown in table 1 could and should be extended in terms of both adult characteristics and implications for reading instruction. As it is, it serves as a demonstration of how a consideration of the learner can help to focus on what needs to be known in order to do a more effective job of teaching adults to read. The suggestion is not, of course, that past and present workers have not begun to do just this kind of thing. That they have is clear in many curriculum guides and published instructional materials. The point is that more needs to be done, and it needs to be done in a systematic fashion so as to probide a sensible framework for the development of techniques and materials. Developing such a framework would be no mean task, it would require the collaborative efforts of adult educators with special competence in learning, instruction, and reading methodology, but it would be worthwhile. A complementary way of approaching the task of establishing a framework for the development of techniques and materials for teaching adults to read would be through the reading task itself.

An Acceptable Sequence of Skills

The techniques and materials developed to teach children to read are not generally appropriate for teaching adults to read. Adults come to the literacy class with different characteristics and expectations and they come with varying degrees of previous exposure to reading instruction. Therefore, some workers have jumped to the conclusion either that there is no particular need to pay much attention to the systematic, sequential development of reading skills in teaching adults to read, or that the skill development sequence is somehow substantially diffent for adults than for children. Reading specialists, however, generally agree that while the teaching approach must differ, the skills remain the same. Burnett has said very succinctly, "The learnings which underlie the ability to extract meaning from a printed page are common learnings whether the potential reader is a young child or a fully matured adult."[29] Others either explicitly or implicitly agree.[30]

There is no need, then, to rediscover a workable skill sequence for adults; skill sequences that have been developed and found to be workable with elementary school children can be adapted for adults. Acceptance of an existing skill sequence permits ABE teachers to get on with the task of making these adaptations; which, in turn, would provide workers with the base required to: (1) develop assessment instruments, (2) identify gaps in individuals' skill development, and (3) systematically organize materials and techniques. In other words, what we need to know is how to identify individuals' strengths and weaknesses in reading skill development, and then, how to provide appropriate instruction for each individual. The writer suggests that a consensual statement of skill development for adults can provide the basis for supplying what is needed.

The University of Wisconsin Research and Development Center for Cognitive Learning has been working on a skill sequence statement, or outline of reading skills, that appears to be acceptable to experienced elementary teachers. A detailed overview of the project can be found elsewhere.[31] The outline includes the reading skills commonly covered in the elementary grades, kindergarten through sixth grade. Each level in the outline is equivalent to a grade, for example, Level A = kindergarten, Level B = grade 1; and the skills are grouped in six areas, for example, I. Word Recognition.

OUTLINE OF READING SKILLS

I. Word Recognition

Level A.

1. Listens for rhyming elements
    a) Words
    b) Phrases and verses
2. Notices likenesses and differences
    a) Pictures
    b) Letters and numbers
    c) Words and phrases
3. Distinguishes sizes
4. Distinguishes colors
5. Distinguishes shapes of objects
6. Listens for initial consonant sounds

Level B.

1. Has sight word vocabulary of fifty to one hundred words
2. Follows left-to-right sequence
3. Has phonic analysis skills
    a) Consonant sounds
        (1) Beginning
        (2) Ending
    b) Consonant blends
    c) Rhyming elements
    d) Short vowels
    e) Simple consonant digraphs
4. Has structural analysis skills
    a) Compound words
    b) Contractions
    c) Base words and known endings
    d) Simple plural forms
    e) Simple possessive forms

Level C.

1. Has sight word vocabulary of 100 to 170 words
2. Has phonic skills
    a) Consonants and their variant sounds
    b) Consonant blends
    c) Vowel sounds
        (1) Long
        (2) Vowel plus *r*
        (3) *a* plus *l*
        (4) *a* plus *w*
        (5) Diphthongs *oi, oy, ou, ow, ew*
        (6) Long and short *oo*
    d) Vowel rules
        (1) Short vowel generalization
        (2) Silent *e* rule
        (3) Two vowels together
        (4) Final vowel
    e) Knows the common consonant digraphs
3. Has structural skills
    a) Base words with prefixes and suffixes
    b) More difficult plural forms
4. Distinguishes among homonyms, synonyms, and antonyms
    a) Homonyms
    b) Synonyms and antonyms
5. Has independent and varied word attack skills
6. Chooses appropriate meaning of multiple meaning words

Level D.

1. Has sight word vocabulary of 170 to 240 words
2. Has phonic analysis skills
    a) Three-letter consonant blends
    b) Simple principles of silent letters
3. Has structural skills
    a) Syllabication
    b) Accent
    c) Schwa
    d) Possessive forms

Level E.

1. Chooses appropriate meaning of multiple meaning words

2. Knows syllabication patterns
   a) Syllabication patterns
   b) Single vowel sound per syllable

II. Comprehension

Level A.

1. Develops listening skills
   a) Has attention and concentration span suitable for his age.
   b) Is able to remember details
   c) Can relate details to each other in reconstructing a story read to him
   d) Can follow two oral directions
2. Increases vocabulary through listening
3. Is able to recall stories in sequential order
4. Anticipates the outcome of stories
5. Interprets pictures critically
6. Can identify main characters in a story

Level B.

1. Uses picture and context clues
2. Is able to gain meaning from:
   a) Words
   b) Sentences
   c) Whole Selections
3. Uses punctuation as a guide to meaning

Level C.

1. Is able to gain meaning from:
   a) Words
   b) Phrases
   c) Paragraphs
2. Reads in meaningful phrases

Level D.

1. Reads for facts
2. Reads for sequence of events

Level E.

1. Adjusts reading rate to:
   a) Type of material
      (1) Factual
      (2) Fiction
   b) Level of difficulty
   c) Purpose
      (1) Identification
      (2) Reading for general information
      (3) Reading for specific information
   d) Familiarity with the subject
2. Gains additional skill in use of punctuation as a guide to meaning (i.e., semicolon, colon, dash, and added uses of the comma)
3. Selects main idea of paragraphs
4. Reads for sequence of events
5. Is able to gain meaning from:
   a) Words
   b) Sentences
   c) Paragraphs

III. Study Skills

Level A.

1. Follows simple directions
2. Demonstrates elementary work habits
   a) Shows independence in work
   b) Accepts responsibility for completion and quality of work
3. Shows development of motor coordination (eye and hand)
4. Uses picture clues to find answers to questions

Level B.

1. Follows directions
   a) Follows directions when working in a group
   b) Follows directions when working independently
   c) Follows written directions
2. Has adequate work habits
3. Recognizes organization of ideas in sequential order
4. Summarizes material
5. Begins to make judgments and draws conclusions
6. Uses table of contents

Level C.

1. Uses picture dictionaries to find new words
2. Groups words by initial letters
3. Explores library as a research center
4. Shows increasing independence in work
   a) Reads and follows directions by himself
   b) Uses table of contents without being reminded to do so
   c) Uses dictionary and glossary independently when appropriate
5. Begins to read maps

Level D.

1. Begins to use index of books
2. Reads simple maps and graphs
    - a) Maps
    - b) Graphs
        - (1) Picture graphs
        - (2) Bar graphs
3. Realizes printed statements may be either fact or opinion
4. Has beginning outlining skills
5. Follows directions
6. Has adequate work habits

Level E.

1. Increases and broadens dictionary skills
    - a) Alphabetizes words
    - b) Uses guide words as aid in finding words
    - c) Uses diacritical markings for pronunciation aids
2. Utilizes encyclopedia
    - a) Uses guide letters to find information on a given subject
    - b) Uses alphabetical arrangement to locate information
    - c) Understands the purpose of topical headings
    - d) Understands the index
    - e) Uses encyclopedia with greater facility to find information
    - f) Understands and uses:
        - (1) Topical headings
        - (2) Cross references
        - (3) Bibliographies
    - g) Uses the index volume efficiently
3. Uses maps, charts, and graphs
    - a) Gains skill in reading and interpreting political maps
    - b) Begins to read and interpret simple graphs
    - c) Reads and interprets several kinds of maps
    - d) Reads and uses captions, keys, and legends of maps
    - e) Selects appropriate maps to determine:
        - (1) Direction
        - (2) Distance
        - (3) Land formation
        - (4) Climates
        - (5) Time zones
        - (6) Populations
    - f) Reads and interprets additional kinds of graphs
    - g) Answers questions requiring the interpretation of maps, graphs, and tables
    - h) Gains skill in using many potential types of sources to solve a problem
4. Uses instructional materials center or library effectively
    - a) Understands fiction books are alphabetized by author
    - b) Begins to use card catalogue to find information
    - c) Understands and uses author, title, and subject cards
    - d) Locates books on shelves
    - e) Uses cross-reference cards
    - f) Uses other reference materials
        - (1) Atlases
        - (2) *World Almanac*
        - (3) Pamphlet file
        - (4) Magazines and subject index to children's magazines
    - g) Locates and uses audiovisual materials
        - (1) Card Catalogue
        - (2) Equipment
5. Recognizes and uses with facility the various parts of texts and supplementary book and materials
6. Organizes information
    - a) Gains skill in notetaking
        - (1) Begins to take notes in own words
        - (2) Learns to take notes selectively
        - (3) Arranges ideas in sequence
        - (4) Selects main ideas
        - (5) Selects supporting details
        - (6) Keeps notes brief
        - (7) Shows ability to work from own notes
        - (8) Identifies source of materials by use of:
            - (a) Bibliography
            - (b) Footnotes
    - b) Understands and uses outlining in work
        - (1) Uses correct form of outline
        - (2) Can find main idea
        - (3) Makes sample outline
        - (4) Outlines topics in more detail
        - (5) Uses own outline for oral and written reports
        - (6) Uses outline to organize thinking in appropriate areas
    - c) Summarizes material
        - (1) Writes summary of a story in

    three or four sentences
    (2) States important points expressed in a discussion

7. Evaluates information
    - a) Realizes printed statements may be either fact or opinion
    - b) Checks statements with those in other sources to evaluate validity
    - c) Evaluates relevancy of materials to topic
    - d) Compares various viewpoints on the same topic
    - e) Evaluates information in terms of his own experience
    - f) Identifies propaganda
8. Follows directions

IV. Self Directed Reading

Level A.

1. Cares for books properly
2. Is aware of sequential order of books
3. Begins to show initiative in selecting picture books

Level B.

1. Begins to apply independent word study skills
2. Is able to find answers to questions independently
3. Begins to do recreational reading
4. Begins to select suitable reading materials independently

Level C.

1. Broadens skills listed at Levels A. and B.
2. Develops increasing fluency

Level D.

1. Develops varied purposes for selecting materials
2. Begins to do independent research assignments
3. Is able to locate sources of information
4. Applies reading skills to subject matter areas

Level E.

1. Conducts research independently
    - a) Applies work study skills to independent work
    - b) Uses bibliography as guide to materials
    - c) Makes own bibliography in research work
    - d) Uses multiple sources to find information
    - e) Broadens application of reading skills
    - f) Understands the function of footnotes
2. Reads independently
    - a) Enjoys reading and reads widely
    - b) Selects reading materials:
        - (1) Appropriate for his reading level
        - (2) Of a variety of kinds (magazines, newspapers, etc.)
        - (3) That hold his interest
    - c) Keeps a brief record of his library book reading
    - d) Enjoys sharing his reading experiences with others
    - e) Seems to use his independent reading to initiate activities (e.g., indedependent projects, intellectual or manipulative; creative activities; hobbies)
3. Appreciates literature
    - a) Enriches vocabulary through wide reading
    - b) Cherishes and rereads favorite books and stories
    - c) Begins to evaluate a selection of literature and analyze why it did or did not appeal to him
    - d) Shows interest in building a personal library
    - e) Becomes more discriminating in his reading
    - f) Uses reading increasingly as a leisure time activity

V. Interpretive Reading

Level A.

1. Reacts to pictures and relates to own experiences
2. Shows interest in stories read
3. Begins to react to mood of poems and stories

Level B.

1. Sees humor in situations
2. Reads with expression
3. Has empathy with characters

Level C.

1. Recognizes implied ideas
2. Identifies character traits
3. Begins to make judgments
4. Begins to draw conclusions

Level D.

1. Recognizes reactions and motives of characters
2. Has ability to relate to stories set in background different from his own
3. Makes simple inferences about characters and story outcomes

Level E.

1. Reaches conclusions on the basis of stated facts
2. Relates isolated incidents to the central idea of a story
3. Understands character roles
4. Recognizes and analyzes more subtle emotional reactions and motives of characters
5. Handles implied ideas
6. Recognizes story problem or plot structure
7. Gains skill in interpreting and appreciating types of language (figurative, idiomatic, picturesque, dialectal)
8. Senses subtle humor and pathos
9. Reacts to writer as well as writing
    a) Begins to identify elements of style
    b) Begins to identify his purpose in writing
    c) Begins to evaluate and react to ideas in light of the author's purpose
10. Forms and reacts to sensory images
11. Perceives influence of different elements within selection
    a) Notes impact of time and place
    b) Follows sequence of events
    c) Understands cause-effect relationship
12. Identifies and reacts to tone and mood
13. Selectively assimilates ideas
    a) Uses ideas gained from reading to solve a problem in other areas
    b) Integrates ideas read with previous experiences
    c) Modifies behavior and thinking as a result of reading
14. Gains increased skill in critical reading
    a) Weighs evidence
    b) Combines materials from various sources in making decisions and solving problems
    c) Understands the importance of checking facts and conclusions frequently
    d) Develops understanding that critical thinking is necessary in a democracy

VI. Creative Reading

Level A.

1. Engages in creative dramatic play based on stories read by teacher
2. Reflects mood in use of voice

Level B.

1. Has ability to enjoy rhythm in words
2. Has ability to see and hear rhyming words
3. Can interpret ideas and stories through discussions, dramatizations, drawing, etc.
4. Has ability to do cooperative planning
5. Is able to share ideas
    a) Shares with individuals
    b) Shares with groups
6. Participates in development of experience charts
7. Tells original stories

Level C.

1. Shows initiative in large group activities
2. Uses voice intonation creatively
3. Writes original stories

Level D.

1. Shares in creative dramatics
    a) Acts out stories read
    b) Creates own plays
2. Identifies with people and situations encountered in stories

Level E.

1. Participates in choral speaking
2. Memorizes poems
3. Tells stories to the group

4. Plans dramatizations of stories and poems
5. Reads selections of his choice and to the group
6. Shares books with others
7. Composes original stories and poems
8. Reads orally to entertain
9. Pantomimes
10. In artistic media expresses ideas gained from reading

Starting with such an outline, ABE professionals could make the adaptations required for realistic use with adults. The revised outline, a consensual skill sequence statement, would then serve as the framework for the development and organization of evaluation instruments and instructional materials. Evaluation instruments keyed to the outline would help teachers to: (1) establish a student's beginning level of skill development, (2) make subsequent checks on his skill development, and (3) focus upon specific instructional needs in terms of specific skills. Likewise, by keying instructional materials and techniques to the outline, teachers would be better able to: (1) match instruction to specific skill development needs, and (2) organize ideas and materials for retrieval and for sharing.

Whether efforts to provide a framework for organizing research and development efforts in the reading area of ABE proceed through the analysis of the characteristics of adult learners, or of the reading task, or by an entirely different avenue, the development of a framework would be useful. It would permit workers to tackle problems in a systematic way and to pool the results of their efforts. But even in the absence of such a framework, it is possible to identify several main areas of concern regarding reading in ABE.

Some Areas of Concern

On considering the existing literature, one is struck by the fact that certain themes or clusters of specific concern seem to emerge. A list follows of some of those clusters of concern. By identifying major areas of concern perhaps a clearer focus will emerge on what we need to know. The writer's biases will be obvious in the discussion.

1. One of the recommendations of the Greenleigh report was that new achievement and intelligence tests that are applicable to educationally and economically deprived adults be developed. The recommendation has been made elsewhere and it continues to be made. The *ABE Student Survey* and the *Adult Basic Learning Examination* (ABLE) are steps in the right direction, but more needs to be done.[32] Adult basic education needs: (a) survey tests to determine initial placement and to measure group progress; (b) diagnostic tests to focus on individual problems and to assess individual skill development; and (c) informal inventories to determine independent and instructional reading levels. The establishment of a skill sequence framework would, of course, expedite efforts to develop such tests.

2. High interest, low reading level supplementary reading materials are needed. These need not be instructional materials in the usual sense; instead they should be the kinds of material that encourage the newly literate adult to use his reading skill. As Robinson has pointed out, beginning literacy skills often disintegrate because of lack of use and practice.[33] To do an effective job of providing the materials needed, ABE professionals need to know: (a) more about the interests of adults in general and about individuals in particular; (b) what formats adults find most appealing; (c) more about how best to assess the readability levels of the materials for an adult audience; and (d) how to make the material available to newly literate adults. The role of libraries in meeting reading needs of the newly literate is being explored; the potential role of other agencies should also be examined.

   In addition, guidelines to help ABE teachers develop effective materials are needed. The illiterate adult is oriented to seek immediate goals. The writer feels that there should be less concern about producing more commercial instructional materials and more concern about: (a) how to help teachers devise their own materials, and (b) how to see to it that appropriate materials get into the hands of newly literate.

3. ABE teachers are concerned about fitting instruction to the background and to the specific strengths and weaknesses of their students. Progress in the two areas just identified will provide direct inputs. More adequate diagnostic information and a better understanding of materials will be most useful. We need to know: (a) what kinds of

preservice or in-service training are most useful in helping teachers to prescribe instruction; (b) what classroom management schemes are most useful, and (c) what forms of test data are most useful to teachers.

4. There appears to be some evidence that the experience and training of ABE teachers is of no consequence in producing gains in literacy levels. The Greenleigh report recommended that high school graduates should be recruited as literacy instructors; but the report also pointed out that in this study the majority of the high-school-level instructors and of the participants were Negroes, unlike the college graduate and experienced instructors.[34] We need to know whether the high-school graduates succeeded simply because they have "soul" or affiliative drives similar to the students, or whether they succeeded for other reasons. If the latter, then we need to know what aided success. It needs to be known if experienced teachers will get better results than inexperienced teachers when they are not restricted to a fixed instructional system. More important, we need to know if experienced teachers, left to their own devices, can produce better results than fixed instructional systems. We also need to know a great deal more about desirable attributes and the optimum role of the literacy instructor. We need to know more about optimum pupil-teacher ratios. Fifteen-to-one is often suggested, but it seems that a more flexible determination would be desirable.

5. We apparently need to know more about the clientele in literacy classes. The writer hesitates to make the suggestion, because if ABE really means to look diagnostically at individuals, then the general characteristics of the group are of little consequence. Nevertheless, a better overall conception of the characteristics of the general clientele might help to break down some of the preconceptions that appear to exist. Epidemiological studies, where all of the adults reading below a certain level in a reasonably large metropolitan area are examined and described, for example, would be worthwhile.

6. There are various estimates in the literature of how much time is required to bring illiterates up to a given level of reading ability. ABE does not need more studies to establish such time allotments. The inevitable conclusion must be that some training is better than none and that more is better than some. Rigid time allotments dictate a lock-step approach to literacy instruction. We do need to know more about pacing in literacy instruction, but guidelines are needed for working with individuals.

In conclusion, the writer would be surprised and disappointed if this view of what we need to know about reading in ABE were seen as a consensual statement. As a reading specialist, the writer hopes that this paper will serve some useful purpose, however, as research priorities are considered.

NOTES

The author wishes to recognize the assistance of Jean Barganz with the review of the literature.

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2. Ibid., p. 1.

3. Ibid., p. 6.

4. Ibid., pp. 7-8.

5. Robert F. Barnes and Andrew Hendrickson, *Graded Materials for Teaching Adult Illiterates* (Columbus: Ohio State University, Center for Adult Education, 1965); Wayne Otto and David Ford, *Teaching Adults to Read* (Boston: Houghton Mifflin, 1967); Edwin W. Smith, *A Revised Annotated Bibliography of Instructional Literacy Materials for Adult Basic Education* (Tallahassee: Florida State Department of Education, Adult Basic Education Section, 1966); Dorothy Minkoff, *Adult Basic Education Curriculum Materials for Teaching: An Annotated Bibliography of Teaching, Reading Writing and Mathematics* (Newark: Newark State College, Adult Education Resource Center, 1967).

6. Knox, *Adult Basic Education,* p. 7.

7. Samuel Ball, *The Argo-MIND Study: A Report and Evaluation of an Industrial Program of Adult Basic Education* (New York: Columbia University, Teachers College, 1967).

8. Lyman B. Brooks, "The Norfolk State College Experiment in Training the Hard-Core Unemployed," *Phi Delta Kappan* 46 (1964): 111-116.

9. Samuel Goldberg, *Army Training of Illiterates in World War II* (New York: Columbia University Teachers College, Bureau of Publications, 1951).

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22. William S. Griffith, "Book Reviews," *Adult Education* 18 (1967): 119-125.

23. Ibid., p. 125.

24. *Learing to Read and Spell* (Los Angeles: American Incentive to Read, 1964); Myron Woolman, *Reading in High Gear* (Chicago: Science Research Associates, 1964); *Mott Program;* and R. Lee Henney *Systems for Success* (New York: Follett Publishing Company, 1965).

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31. Wayne Otto, *Overview of the Wisconsin Prototypic System of Reading Instruction in the Elementary School* (Madison: University of Wisconsin, Wisconsin Research and Development Center for Cognitive Learning, 1969), pp. 4-8.

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AN EVALUATION OF THE EDUCATIONAL EFFECTIVENESS OF SELECTED ABE MATERIALS

R. Calvert Steuart

There is an increasing awareness within present-day society of the substantial numbers of unemployed adults, living in both urban and rural areas. This population of disadvantaged adults is often denied the opportunity of full participation in society because they lack the basic essentials of English literacy. Literacy has been prescribed as a prerequisite for participation in vocational training and retraining programs, thereby effectively eliminating many of the disadvantaged, functionally illiterate population. Increasing attention is being focused upon adult basic education and subsequent programs designed to meet the educational needs of the disadvantaged.

The theoretical basis for this research lies in curriculum development and evaluation. The study was developed on the premise that through the continuing cycle of evaluation, redesign, and reevaluation, the educational effectiveness of curriculum materials can be substantially improved. Briefly stated, the objectives of this research were:

1. To determine the educational effectiveness of ABE materials in increasing the reading abilities of functionally illiterate adults.
2. To identify the component parts of selected literacy program materials.
3. To determine the relative effectiveness of the component parts of the literacy materials through systematic observation of students in the teaching-learning process.

Adult basic education literacy materials should be designed to meet the specific needs of the student. To accomplish this task, it is imperative that the curriculum reach each individual student at the point where he is now. Recent research has produced many guidelines for the development of effective literacy training materials. The scope of this paper, however, does not allow for the review of the many specific developmental guidelines.

This research was concerned with the effectiveness of selected materials in teaching English as a second language to Spanish-speaking Americans — Americans who are termed functionally illiterate in the native language of the United States. There is a paucity of commercially produced materials that are specifically designed for teaching English as a second language. Much of the materials that are currently being employed in the teaching of English as a second language are teacher-prepared and have not been objectively evaluated. Curricula that are prepared for literacy instruction of non-English-speaking adults should focus to a certain degree on the culture and orientation of these adults. It is suggested, therefore, that through meaningful associations to native or derived cultures, ABE literacy curricula will achieve a higher degree of educational effectiveness. For the purposes of this paper, then, it will be of some significance to explore the culture of the Spanish-speaking ABE student.

The Culture of the Spanish-Speaking American

The migrant or native-born Spanish-speaking Mexican American is more often than not in a disadvantaged position in U.S. society. His position is described by Smiley in the following characterization:

> A disproportionate number of under privileged come from families in which English is not their native language or tongue or come from families whose native English is characterized by differences in vocabulary, syntax and paralinguistic features — in both cases, the person is marked as undereducated and lower class in the eyes and ears of their more privileged fellow citizens.[1]

According to the proceedings of a recent conference that confronted this problem of the education of racial minorities, it was estimated that there are 3,842,000 Mexican-Americans living in the United States. *In 1960* ninety percent maintained residence in five

Southwestern states. Jones, in describing the difficulties of the Mexican-American said, "The greatest problem in the Mexican-American community is education, not racial discrimination."[3] Cultural differences impede education and economic advances on the part of these citizens.

The apparent disadvantaged position of the Mexican-American is more fully understood when one realizes that upon arrival in the United States he: (1) competes for unskilled jobs, adding to the burden of the glutted unskilled labor market; and (2) reinforces cultural and social factors of the old world, thereby presenting a powerful force preventing change in the Mexican-American community.

There are two internal variables which serve to reinforce the nonchange attitude of the Mexican-American culture. The focal values of the concepts of *La Raza* and the joint family emerge as dominant determinants, both relying on the use of Spanish as the essential tongue of social life. *La Raza* or the race is described as the cultural and spiritual bond uniting all Spanish-speaking peoples. This concept causes adult basic education to be ineffective for the Mexican-American community by depicting: (1) a physical world not amenable to change, (2) a time perspective oriented to the present, and (3) a noncompetitive attitude between individuals. The concept of the joint family further relegates ABE to an ineffective position in the Mexican-American community by maintaining: (1) group rather than individual decisions, (2) experience as the best guide, and (3) an age and sex hierarchy in decision-making. The Mexican-American is, therefore, effectively prevented from assimilating the success criteria of the Anglo-Saxon society of which he is a part.

It is evident that adult basic education literacy programs should be designed to maintain several program directions if these programs are expected to effect the assimilation of the Mexican-American into the mainstream of American life. In this writer's view, the term *Mexican-American* should be made meaningless if acculturation is achieved. A common medium of English should be injected into *La Raza.* The new technique of bilingual ABE instruction should be viewed as instrumental both for achieving acculturation of the ABE student and for realizing the utilization of his potential as a member of society.

Experimental Design and Procedures

The research design employed for this research made possible the measurement of the educational effectiveness of two commercially prepared literacy instructional programs in the classic pretest-posttest experimental design. A specific population of Spanish-speaking functionally illiterate adults were identified as experimental subjects. The population of Spanish-speaking adults were living, at that time, in the respective areas of Kenosha and Waukesha, Wisconsin, and were for the most part migrant or ex-migrant workers who had migrated from the Southwest to find employment in the industrial complexes of these two cities. The experiment was conducted at Kenosha Technical Institute, Kenosha, Wisconsin, and Waukesha County Technical Institute, Waukesha, Wisconsin.

Forty Spanish-speaking subjects were initially enrolled in ABE classes at Kenosha as part of the United Migrant Opportunity Service (UMOS) program. The subjects at Kenosha received two hours of literacy instruction each day, four days per week, for a total of eight hours per week. Thirty subjects were enrolled in ABE classes at Waukesha, receiving two hours of instruction, two days per week, for a total of four hours per week. The subjects enrolled in the experiment at Kenosha received approximately fifty-four hours of basic English literacy instruction. The Spanish-speaking subjects enrolled at Waukesha received approximately forty-eight hours of basic English literacy instruction.

The first week of literacy instruction at both locations was devoted to general student orientation and orientation to remedial reading instruction. During the second week of literacy instruction, the subjects were given a multiple criteria reading skills achievement pretest to identify their level of reading competency. Specifically, the pretest measured initial abilities in reading comprehension, word recognition, spelling, and vocabulary.

The subjects were randomly divided into two subpopulations, or classes at Kenosha Technical Institute and three classes at Waukesha County Technical Institute according to their general literacy level as indicated on the pretest. Within each class the subjects, again, were randomly assigned to one of two experimental groups with no attempt at matching by composite pretest scores.

A total of ten experimental groups, four at Kenosha and six at Waukesha, were then randomly assigned to one of the two selected ABE literacy programs. Five experimental groups were administered the Sullivan *Programmed Reading for Adults* program and five

School	Class	Exper. Groups	A.B.E. INSTRUCTORS				
			A	B	C	D	E
Kenosha Technical Institute	A	1	(10)				
		2	▨ (10)				
	B	3		(10)			
		4		▨ (10)			
Waukesha County Technical Institute	C	5			(6)		
		6			▨ (6)		
	D	7				(5)	
		8				▨ (5)	
	E	9					(4)
		10					▨ (3)

Fig. 1: A model of the experimental design
Numbers in ( ) indicate initial experimental group size.
Shaded sections indicate the Mott Basic Language Skills treatment.
White sections indicate the Sullivan Programmed Reading for Adults treatment.

experimental groups were administered the *Mott Basic Language Skills* program. The experimental design for this research is illustraded in figure l.

An important aspect of this experimental design, that similar ABE studies lack, is the provision that each instructor teaches an experimental group using each of the treatments. It is through this procedure of instructor assignment that the threat of teacher effectiveness was minimized as a confounding variable. The research design provided for measurement of the dependent variable before the independent variable, the reading program, was applied and again after it was withdrawn.

A review of currently available reading programs reveals two fundamental approaches to reading instruction. These two approaches can be identified as the analytic and the synthetic. The *Mott Basic Language Skills* program was chosen as representative of the analytic approach, while the Sullivan *Programmed reading for Adults* was chosen as representative of the synthetic approach to reading instruction. The Mott program is a sequential workbook series approach to reading instruction. The Sullivan is a sequentially programmed workbook series with a linguistic approach to reading instruction.

The data were studied with the FINN program for multivariate analysis of variance, employing regression analysis using pretest scores as covariates and posttest scores as dependent variables.

Critical Analysis of the Research Design

Research in the social sciences should be viewed both from pure methodological processes as well as from pragmatic considerations of the actual research environment. When viewed from the methodological functions of ideal research design, this study has several obvious weaknesses. Recognition of these weaknesses should assist future researchers in designing studies based on a greater degree of textbook research methodology.

This research design was weakened by the lack of a control group. Without established control functions, it becomes more difficult to ascertain whether the difference from pretest to posttest was due to such factors as history, maturation, pretesting, and interaction, or to the literacy program treatments. Strict control of the total educational input directed towards the students could not be maintained. Consequently, there was no control over the extent other instruction might have been responsible for gains in overall reading ability. The validity of the findings of this study is also threatened by the lack of information concerning the ABE students' literacy level in their native language. It is feasible that a student may learn a second language more readily if he is literate in his native language.

An important consideration for the ABE researcher is that ABE students may be illiterate in English, but may be highly literate in their native language. Adult basic literacy instruction should be organized and taught, therefore, as any subject course might be taught to responsible adults who possess an ability and desire to learn.

Major Findings of the Study

An analysis of the data failed to produce evidence to support the research hypothesis that significant differences in reading achievement would exist between the ABE students who received the *Mott Basic Language Skills* program treatment and those who received the Sullivan *Programmed Reading for Adults* treatment. Students who received the Sullivan program treatment achieved significantly higher posttest results than their Mott treatment counterparts on reading comprehension. No difference in mean gain was shown to exist between the treatment groups on the remaining three variables, word recognition, vocabulary, or spelling.

An analysis of the data failed to produce evidence to indicate an overall interaction between initial reading ability of the ABE students at the inception of the study and either of the literacy program treatments. One significant interaction was observed to exist between the low and moderate initial reading ability students and the Sullivan literacy program with regard to the development of an English vocabulary. The Sullivan program was observed to produce a lack of gain in the development of a more comprehensive English vocabulary with the lower ability adult students in the study. Significant differences in the amount of reading achievement among the five classes of ABE students were found in student mean gains in the word recognition and vocabulary variables on which students with low initial reading ability learned less, while students with moderate and high initial reading abilities learned significantly more.

Few significant relationships were found to support the hypothesis that there are significant relationships between the measured improvement of the student's ability and selected characteristics of students. The following positive relationships were found to exist. A significant relationship existed between the student's amount of primary or secondary schooling and his achievement on the reading comprehension and spelling measures of reading ability. Hours of literacy instruction seemed to be significantly related to the student's successful development of an English vocabulary.

In search for predictors of future student achievement in literacy instruction, pretest scores were found to be positively significantly related to posttest measures of achievement for three of the four measures of reading ability. Pretest scores on word recognition, reading comprehension, and vocabulary were significantly related to their respective posttest scores as valid predictors of student success.

Instructors' observations of students engaged on the teaching-learning process produced subjective indications of the educational effectiveness of the Mott and Sullivan programs. The major component parts of the Sullivan program were deemed highly relevant in presenting reading instruction to functionally illiterate adult students. Separate instructor's observations were secured for both the basic and more advanced series of the Mott programs. Instructors rated the major component parts of the Mott workbook series as difficult and inappropriate for functionally illiterate adults who are unable to communicate in English. The major component parts of the more advanced Mott workbook series were deemed quite effective in teaching adults to read and write in English.

Discussion and Conclusions

The results of the present study, taking into account its inherent weaknesses and shortcomings, permitted the drawing of several conclusions and implications relevant to an adult education curriculum. The conclusions are as follows:

1. Research can be designed to test experimentally the educational effectiveness of

adult basic education literacy materials. It is possible to involve functionally illiterate adults in experimental research without prejudicing the ongoing literacy training program

The *Mott Basic Language Skills* and the *Programmed Reading for Adults* programs are effective in teaching functionally illiterate adults English as a second language, after an average of forty-eight hours of instruction. On the average, the higher an adult's initial competency in English, the greater the adult's mean gain on the posttest measures of reading ability. Conversely, the lower an adult's initial competency in English, the smaller the adult's mean gain on the posttest measures of reading ability.

This may be viewed as an unexpected result, as one would expect the extremely low-scoring and high-scoring students to regress toward the mean posttest score for the total group. Success in learning English as a second language may be viewed as directly related to an adult student's initial ability with the language.

3. The divergent methods of the Mott and Sullivan programs seem equally as effective in teaching English as a second language to functionally illiterate adults. It appears that the intensity of the student's self-motivation to learn English as a second language is a factor of great consequence in determining meaningful literacy achievement.

4. Students with varying initial abilities to communicate in English seem to respond equally as well to the Mott workbook approach and the Sullivan programmed approach to reading instruction. Well-programmed literacy materials, however, seem to appeal to the initially less competent adults to a greater extent than do the standard workbook exercises.

5. Pre test examinations used to determine the literacy level of functionally illiterate adults can be considered as highly significant predictors of future student success. Highly significant relationships were found to exist between scores on several pretest measures of reading ability and subsequent posttest scores and grade equivalents.

   There are numerous opportunities for error in drawing conclusions from small sample research. The conclusions offered here have been drawn with this limitation in mind. This research was specifically designed to test the effectiveness of literacy materials with Spanish-speaking adults. Conclusions and implications suggested by this paper should be viewed within the context of non-English-speaking adults in a Mexican-American or Puerto Rican subculture. Contrary to popular opinions commonly held by many ABE instructors, the ABE students involved in this study were not adverse to written examinations measuring their reading ability. The ABE instructor has a clearly defined role in preparing adult students to be tested, and if performed properly, their major fears of inadequacy and insecurity should be allayed.

It is the opinion of this researcher that the adult's intensity of self-motivation and desire to learn is the greatest factor determining success in learning English as a second language. For the most part, the ABE instructor is a cogent factor in the determination of a student's desire to learn English. The personal relationship between the student and instructor is the common variable that weakens the validity of much educational research.

NOTES

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2. Conference held by the Center for Studies in Vocational and Technical Education, University of Wisconsin, May 11-12, 1967.
3. Lamar B. Jones, "Education and Training of Mexican Americans: Problems and Prospects," in *The Education and Training of Racial Minorities* (Madison, Wis.: Center for Studies in Vocational and Technical Education, 1968), p. 110.

Economic Considerations

OVERVIEW OF ILLITERACY ECONOMICS

Henry Scharles

Events during the past twenty years have spawned serious efforts by educators and others to determine the economic value of education and the costs, both societal and individual, of educational inadequacy. This interest is the product of the technological development in industry and agriculture which has necessitated a degree of specialization and a skill level of labor which has eliminated much of the previous employment opportunity available to illiterates in the working force. Industry is displacing labor with capital investment in automated materials handling, measurement, and control mechanisms. The displacement of unskilled labor in agriculture, for example, is exemplified by equipment such as the cotton, tomato, and vegetable-root pickers. Each of these machines was developed in the past decade and is now harvesting more than fifty percent of its respective crop. With each displacement new jobs are created, but usually these new positions require occupational skills not developed in the displaced labor group. The end result is a growing, displaced, illiterate labor force whose alternative to purposeless, atrophying idleness is actively considered unacceptable by society.

An analysis of the economics of adult basic education must consider two elements: the society and the individual. In considering the individual level, two components, consumption and investment are often identified. Schultz, who has produced much of the basic theory and conceptual development in educational economics, describes the educational consumption component as that which is noncapital-forming, but which provides the student or family: (1) pleasure or satisfaction, or (2) refinement in taste and the development of: (a) morals, (b) standards of conduct, or (c) an art of living. Illiteracy denies its victims much of the opportunity for this consumption. The consumption component is not directly occupational, vocational, or professional in orientation. The investment component, which is more readily recognizable as an economic consideration, is described as the per capita capital stock of schooling on which the return is the productivity of the individual and the society.

The Consumption Component

The consumption component in the economics of literacy education is self-evident. While there is no direct tangible return, in a societal setting which is progressively upgrading the quality of the life style, the consumption component assumes greater significance; however, its function can not enjoy maximal development without an educational base of at least a primary education. Elements generally found in an illiterate's emotional profile which impinge on his consumption component are: (1) low ego strength: (2) a high fear of failure; (3) a poor self concept; (4) little identification or association with the majority culture; and (5) low capability and receptivity to change, as noted for example, among Appalachians, black Southerners, and Mexican Americans. To provide further deterent to achievement, the illiterate is aware, particularly through the mass media, of bounties in which he has no realistic prospect of sharing.[2]

To assess the level and quality of the consumption component, several social scientists have provided valuable tools. Maslow's heirarchy of needs provides a ready measure of the quality of life of the illiterate.[3] With low earning capacity, financial uncertainties and inadequacies instill an anxiety for the physiological and safety needs. A lack of satisfaction of the most elemental needs denies awareness, aspiration, and fulfillment of the higher needs, such as love, esteem, and self-actualization. It is the satisfaction of these higher needs that provides the educational consumption necessary for the quality of life which is the norm. Havighurst's developmental task theory identifies many learning activities throughout life which are virtually unattainable in contemporary society without functional literacy.[4] With the resulting developmental gaps, a person is inadequately prepared for the challenges encountered in life, or the satisfaction of accomplishment.

The societal aspect of the consumption component is the composite of all of the individual activities and characteristics. The anxieties, lack of identification and internalization of mores, and the other consumption ramifications of illiteracy have recently been manifested in social unrest, civil disturbance, and resource distraction. A lack of social awareness, political naivete, and societal responsibility renders the illiterate unsophisticated and vulnerable to succumbing to influences detrimental to his and society's best interests.

The Investment Component

There has been much quantification of the educational investment component at the individual level, measured in monetary terms, as a cost and as a benefit, on a broad scale but little relating specifically to literacy training. However, the available statistics do provide some basis for inference. Table 1 presents the estimated average lifetime earnings for men by years of school completed.

Table 1

Estimated Lifetime Earnings for Men by Years of School Completed

Years of Schooling	Lifetime Earnings
Less than eight years	$143,000
Eight years	184,000
High school, one to three years	212,000
High school, four years	247,000

Melvin C. Fountain, "What's an Education Worth?" Occupational Outlook Quarterly 12 (1968): 26.

The data in table 1 are corroborated by occupational information which indicates that the majority of illiterates are in occupations in which expected lifetime earnings are the most limited. (See table 2.)

There is a sharp contrast in income data comparing incomes for representative occupations requiring at least a primary school education and those in which functional illiterates are concentrated, as seen in tables 3 and 4.

Table 2

Percentage of Functional Illiterates by Occupational Category.

Occupational Category	Percentage
Farm Labor	29.0
Labor	17.6
Farm	12.1
Service	7.7
Total	66.4

Current Population Reports: Population Characteristics (Washington, D.C.,: Bureau of the Census, February 4, 1960), p. 5.

Table 3

Representative Occupations and Lifetime Earnings (1966)

Elec Occupation	Lifetime Earnings
Electrician	$236,000
Electric power lineman	228,000
Brick mason	204,000
Plasterer	197,000
Mechanic	191,000
Carpenter	178,000

Herman P. Miller, "Education: An Advantage for a Lifetime," Occupational Outlook Quarterly 7 (1963): 3.

Table 4

Lifetime Earnings of Men Twenty-Six Years of Age or Older with Less than Eight Years of Schooling (1966)

	Total Experienced Civilian Labor Force	Operations	Service Workers	Farm Laborers and Farmers
White	$170,000	$169,000	$140,000	$85,000
Nonwhite	110,000	122,000	97,000	50,000
Total	$165,000	$164,000	$131,000	$80,000

Herman Miller and Richard Hornseth, Present Value of Estimated Lifetime Earnings, Technical Paper No. 16 (Washington, D.C.: Bureau of the Census, 1967) p. 8.

A brief statistical description of potential ABE clients provides some quantification of the societal costs of illiteracy:

Out of the total population of the United States;

1. **1.6 percent of all whites and 7.5 percent of all blacks are illiterate. It should be noted, however, that despite the proportions, in actual numbers, many more whites than blacks are illiterate.**
2. **The majority of the nine million individuals on welfare are functionally illiterate. The annual costs of welfare in the United States are $7,000,000,000.**
3. **Thirty-seven percent of all blacks twenty-five years and older are illiterate.**
4. **Thirty-six percent of heads of families with less than eight years of schooling earn less than $3,000 per annum.**
5. **Eight million individuals twenty-five years or older are totally illiterate.**
6. **Illiterates have a higher incidence of public**

institutional care, a lower life expectancy, a higher selective service rejection rate, and a higher infant mortality rate.

7. Illiterates are the least economically and socially mobile.
8. Factors associated with future norm violators are the same patterns as those related to potential school leavers. One correlate is low basic literacy skills.
9. Men eighteen or older with five or less years of schooling experience an unemployment rate of 5.7 per cent, as opposed to college graduates who experience a 1.0 per cent rate.
10. The South and rural farm areas have the highest illiteracy for whites and nonwhites.
11. Thirty-seven percent of laborers eighteen and older have less than five years of schooling.[5]

Income statistics of the United States show that in 1965 5.5 million full-time workers earned less than $2,500. In 1966 two million in the labor force, thirty-one percent of whom were married with families, were underemployed for economic reasons beyond their control.[6] Among the underemployed in the labor force that year. 15.3 percent had no schooling, 10.6 percent had one to four years of schooling, 9.9 percent had five to seven years of schooling and 7,8 percent had eight years of schooling, for a total of 43.6 percent of the labor force.[7]

One dramatic illustration of the possible societal cost of under-education is the recent urban civil disturbances which have involved losses totalling billions in damage and revenue. A cost less sensational but of major proportion is the estimated twenty-five billion dollar drag on the gross national product (GNP) due to the reduced productivity and consumption of functional illiterates.[8] There is the further drain on capital funds necessitated by a legislative redistribution of wealth through welfare measures.

The return on investment in education has several interesting dynamics. Literacy training is considered to have a positive effect on employability and earning capacity by agencies of both the public and private sector.[9] In the inner city employment programs, such as those operated by North American Rockwell, Kodak, McDonnel Douglas, Equitable Life, Chase Manhatten Bank, AVCO, and Aero Jet General, functional illiteracy has been a chronic problem with the incidence climbing to seventy-four per cent at North American Rockwell.[10] Each of these programs has initiated remedial education opportunities.

Return on societal investment in education varies by nation and by educational level. Generally speaking, investment in human capital at the basic or primary educational level provides greater returns than similar investment at higher educational levels. Basic educational investment in the United States provides a nine per cent return on investment for two years of schooling and a twenty-nine per cent return for eight years of schooling.[11] Israel realizes a seventeen per cent return on her primary educational investment.[12] Venezuela indicates the significance of adult basic education for developing nations, and possibly for the inner city, with a rate of return for primary school completion over illiteracy of 82 per cent for the urban worker and 130 per cent for the rural worker.[13]

This formidable evidence tends to support effort and commitment for literacy education as the ultimate measure in the resolution of current social and economic dislocation. However, in balance, the cities and regions with the highest illiteracy rates also have a higher percentage of their resources committed to education. The Social Security Administration found that the level of a city's economic development has a greater influence on illiteracy and school dropouts than did that city's social expenditures on education, public health, or welfare.[14] This challenges the value of social expenditures without adequate investment and economic development to provide a growth rate sufficient to maintain an ever improving quality of life. Ideally, economic development should couple expanding employment opportunity with comprehensive social insurance, such as adequate health service, disability and unemployment compensation, the elimination of regional disparities, and provisions for greater mobility. In this manner the investment component can provide the base for a total systems approach to adult basic education.

In summary, the investment component of the economic value of adult basic education will continue to increase at both the societal and individual levels, but the greatest benefits to be realized from ABE will probably be in the individual and societal consumption component.

NOTES

1. Theodore W. Schultz, *The Economic Value of Education* (New York: Columbia University Press, 1963), p. 8.

2. Ibid.

3. Adbrahm H. Maslow, "A Theory of Human Motivation," *Psychological Review* 50 (1943): 370-396.

4. Robert J. Havighurst, *Human Development and Education* (New York: Longman, Green, 1953).

5. Harry R. Hamel, "Educational Attainment of Workers, March 1967," Special Labor Force Report No. 92, *Monthly Labor Review* 91 (1968): 26-34.

6. Claire C. Hodge and James R. Wetzel, "Short Workweeks and Underemployment," Special Labor Force Report No. 89, *Monthly Labor Review* 90 (1967): 30-35.

7. Ibid., p. 34.

8. Hodge and Wetzel, "Short Workweeks," pp. 34-35.

9. "Employing the Unemployables: What Companies are Finding," *U.S. News and World Report* 65 (August 12, 1968): 49-53.

10. Ibid.

11. Schultz, *Economic Value,* p. 62.

12. Ibid., p. 61.

13. Ibid., p. 61.

14. Robert A. Dentler and Mary Ellen Warshauer, "Big City Dropouts and Illiterates," *Social Security Administration Bulletin* (July 1966).

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PREPARATION FOR EMPLOYMENT AS A MOTIVATOR FOR ADULT BASIC EDUCATION

Francis Gregory

This paper will consider one of the prime motivators for involvement in adult basic education — preparation for employment. The paper will consist of four parts: (1) a review of the position of American society in reference to the disadvantaged; (2) a look at who the undereducated are; (3) a review of some of the conclusions of studies and reports of manpower programs concerning the relationship between occupational goals and success in adult basic education; and (4) recommendations for research.

This nation continues to hold to the beliefs that its economy can support full employment and that all citizens who are able and available should actively contribute to its productivity. These beliefs are clung to as basic to a democratic society in which all members share the opportunities, the rewards, and the responsibilities in accordance with their talents and interest. Fulfillment for each person, health and happiness in the communities, and an economic strength able to sustain the good life and guard the freedom of man are expected.

Further, in this nation or any nation, primary dependence must be placed on the educational institutions and processes, and particularly on the system of universal public education, so to develop the supply of manpower that it may optimally deploy itself, on the basis of free choice, among the levels, areas, and stations of industry.

That our system has faults is clearly seen in the figure of 2,600,000 unemployed persons with almost as many jobs going begging — albeit jobs that require higher levels of skill and knowledge than are possessed by the unemployed. Of equal concern are the undetermined millions who are under-employed because of undeveloped abilities.

Significant among these statistics of misfortune are the large numbers of people who cannot function acceptably in mathematics, language arts, and other basic skills at the minimum level at which the nation's business is carried on. Undereducation is limiting the destiny of twenty-four million persons, eighteen years of age and older, in this country, identified by the 1960 Census as having less than eight years of schooling. Derek N. Nunney describes them.

> They are the young adults who are dropping out of school. They are the adults who dropped out or were forced out of school during the depression years and whose basic skills grew less and less in an era of development which did not have time to worry about reading and writing — but only about working and eating. They are the elderly who were in school during the very early part of this century when reading and writing were nice but non-essential — when horsepower and muscle power were the mode. They are educationally handicapped who are prevented from functioning to their own satisfaction in a world to which they want to belong.[1]

The most troubled among these twenty-four million souls are the approximately three million who are totally illiterate. The latter group is greater in number and proportion than in the countries of western Europe. About a third of the hapless three million are in the labor force, living in or on the edge of poverty, and certainly doomed to the umbra of American life unless they succeed in acquiring sufficient command of the fundamental processes to be able to escape through vocational skills training.

Historically, adult basic education programs, both public and private, which have sought to enroll seriously undereducated adults, have waited in vain for them to present themselves in any significant numbers for salvation. The shadow of adult illiteracy in the nation, measured in the aggregate, remains almost completely anonymous. The uneducated adult is unidentified by name or address in census statistics. Fear or shyness at the thought of revealing himself as incompetent, failure to find sufficient reason to raise his level of educational attainment, or hostility toward the classroom and the society it represents has kept him away from the schoolhouse. In Washington, D.C., over the past fifteen years the regular adult basic education (ABE) program has enrolled annually an average of less than one percent of the almost 100,000 adults lacking an eighth grade education. This probably is typical of the experience in other large cities.

It has been plain that something more than the purity of knowledge and the charm of the schoolhouse is needed to activate the undereducated adult — the fugitive from our culture — to enter and stay with a program of basic education. The burden of this paper is to recount some of the experience since 1962 in federally supported programs with ABE components that tends to establish that the quest for vocational competence is often a rather effective motivating influence for purposeful and successful performance in basic education.

Unfortunately, there is little that even resembles rigorous research that would help to put a relative value on pursuit of an occupational skill as a motivator toward education in comparison with other possible activators. The designers and builders of these ABE programs under the Manpower Development and Training Act (MDTA), the Economic Opportunity Act (EOA), and other legislation may have been guided intuitively by assurances that have emerged from the considsrable volume of studies in the field of motivation.

Without worrying about the state of the search for truth concerning motivation as a discrete fact of human experience or as a useful theoretical construct to explain human behavior, or concerning the differentiation between motivated behavior and learned behavior or reinforcement,[2] let us accept the empirically validated principle that the urge to satisfy a felt need can exert strong control over human behavior — thus foregoing the cause and embracing the effect. The human engineering enterprise of manpower development has had to make many such pragmatic adjustments to the state of the art in the behavioral and social sciences.

There seems to be some evidence that in various manpower projects marked success has been achieved in programs of basic education set up in close relationship with skills training. This is attested to in written and verbal reports on federally supported job-training programs with ABE components. Sexton, in search of the ideas which seemed to have the greater yield in the field of basic education, reviewed over fifty experimental and demonstration MDTA projects for disadvantaged youths which had basic education components. She made a relevant comment in her report.

> Shop work and the learning of manipulative skills can provide exciting motivation for learning language and computational skills. A student who reads a manual in order to fix a motor is more likely to do the reading voluntarily, appreciate the "uses" of reading, and acquire skills in the process.[3]

Sexton further suggested:

> Since student motivation is largely job-and-money centered, the job setting itself would seem to be the best place for training, education, and rehabilitation.[4]

In the first report of the Tuskegee project a like statement was made.

> There is little doubt . . . that once the academic work is intelligently coordinated with the vocational skills, trainees grow faster in both areas. . .[5]

And the Job Corps also commented on the relationship of academic progress to vocational goals.

> Whenever possible, reading and arithmetic training should be incorporated into the pre-vocational, vocational or world of work programs. Such tying together, as demonstrated by some Men's Centers, can cause the achievement rate to double.[6]

Somewhat less hopefully, but certainly supporting the proposition, Patten and Clark concluded in reference to efforts to improve the literacy of fifty-three-hard-core unemployed individuals in Detroit:

> Our respondents basically want jobs so that they will have money to live as they please within the boundaries of their wages and available credit. To the extent literacy leads in this direction, they desire literacy. Many believe literacy could be dispensed with if they had jobs. To the extent that sufficient money is obtained by having jobs, they want them. Jobs could be dispensed with if there were sources which would provide sufficient money (such as a "guaranteed income" perhaps) and allow the respondents to use it as they wish. The attitude toward work for these people is pragmatic; work is a means to wages.

Work for other reasons tends to be of lesser value. They have no reason to expect intrinsic joy in work and little of the Puritan Ethic we hear so much about in studies of white middle class Americans.[7]

If these similar, although rather casual and only approximately quantified generalizations of the MDTA and EOA experiences can be accepted, it may be concluded that a person who has set out to prepare himself for employment (or better employment) may address himself purposefully and energetically to whatever learning experiences are required to achieve his objective, such as skills training, basic education, counseling, job orientation, health services, or whatever else seems necessary. It follows then that for the almost one million totally illiterate adults who are considered part of the labor force, basic education may well be entrained successfully in the pursuit of job skills, either for employment or upgrading. The same would apply to other millions in the labor force, not so disadvantaged educationally, but whose occupational goals require higher levels of academic performance than they possess, such as the equivalence of high school graduation.

This is not to suggest that job mobility can be looked upon as the sole motivator for acceptance of and energetic performance in ABE although it is clearly a potent prime mover. Rather, it would be consistent and logical to recognize that other goals, the attainment of which requires higher levels of mastery of language and numbers, will reinforce the resolve and the behavior of the undereducated. Indeed, other motivations would have to be depended upon for those in circumstances that do not include employment as an objective, such as the elderly, the disabled, the retired, and the two million totally illiterate who are not in the labor force, not employed or seeking employment. To abandon those not in the labor force would almost certainly serve to reduce the chances of those of the next generation who are within their sphere of influence. A lack of education among the adult members of a family contributes to the lack of enlightenment and aspiration, to the barrenness of social and economic life, and to the hopelessness of the household. This impoverishment of ideas and values cascades down from generation to generation.

In reference to the effectiveness of drives other than for vocational competence as sources of motivation for the enrollment in ABE of undereducated adults, Walther and Ferguson offer some interesting findings on the usefulness of self-instructional reading courses based on areas of interest for 144 young persons considered to be neither self-motivated nor self-

Table 1

Mean Interest of 8 Areas of Possible Interest to Mon-Motivated, Educationally Disadvantaged Young Adults

Area of Interest	Number of Items Representing Area	Mean of Modal Weights
Interpersonal relations	10	2.80
Education	23	2.57
Sex	6	2.50
Personal & Emotional Adjustment	7	2.07
Religion	3	3.17
Earning a Living	47	2.58
Recreation	2	1.50
Social Values	3	1.67

Source: Walther and Ferguson, p. II-6.

supporting.[8] For direction in selecting the topics to be programmed for the course, the authors first devised an instrument, consisting of 101 items of possible interest to the target population, which yielded a distribution of areas of interest. Table 1 shows the results of the study of interest areas by Walther and Ferguson.

It may be seen that for level of interest, "earning a living" is only third behind" religion" and "interpersonal relations" for this group. The investigators admit the limitations of the study, based principally on the small sample and the rough design of the instrument, and caution against generalizing from their results. The rank order of the means of the modal weights of the areas of interest, however, shows that "some hear different drums."

Among other kinds of findings the researcher arrived at a tentative conclusion.

> It appears from these findings, therefore, that regardless of their initial knowledge of a subject area, this sample learned course content that paralleled their areas of interest, and showed proportionately high learning gains the closer the course subject-matter was to their sphere of interest.[9]

They freely admitted the weaknesses of this pilot study, but suggested:

> The concept of measuring areas of interest to serve as a guide in the preparation of instructional materials shows promise. Areas of interest do appear to reveal the intrinsic motivations of the student. However, to provide measures useful for the population of unmotivated dropouts, extensive work would have to be done in extending the areas of interest considered in the instrument and in simplifying its administration. A measure that could be administered to groups would be desirable.[10]

Whatever the nature of the motivation, it needs to be sustained until the objective is achieved. One might hope that as basic competences are acquired, aspirations would be raised and widened and that new reinforcements, growing out of the discovery of new opportunities and new values, would progressively provide the fuel for the upward climb from illiteracy. Patten and Clark, in their Detroit study, are not optimistic about any such self-sustained motivation among the disadvantaged.

> The men included in our study realize that the road to literacy for an illiterate adult is a long and arduous one, and they cannot see the end. The higher-paying jobs in the sectors of the American occupational structure requiring extensive education are far beyond their aspirations and job horizons. They are on the very bottom of the economic and social heap, and although they probably cannot evaluate adequately the full significance of many of their drawbacks, they clearly have no stated mobility aspirations. In this sense, they are realistic in their occupational outlook. . .
>
> . . . Many adults cannot get jobs off their minds. If jobs are obtained, they probably will pass up literacy training on what they consider practical grounds. In the final analysis, we see little likelihood literacy training for the hard-core unemployed will work wonders; yet there is evidence some things can be accomplished.[11]

On the other hand, there are countless pieces of testimony from a wide range of ABE activities in manpower programs describing the burgeoning of aspiration, and the acceleration of educational, vocational, and social growth in disadvantaged individuals after some initial activation by a coupled job-training and basic-education experience. One such anecdote is recounted by Mayer.

> One of our employees in the first batch was a man named Lem Wright — black, then 42, with a sixth grade education in a Southern school — which wasn't much. He was married and had three children.
>
> He joined the training program early — and it became apparent that he was not going to make it because of a lack of education. His frustration level was rather low, and his supervisors had pretty well given up, and they recommended that he be dropped out. The union intervened, because notice had not been given on time of the intention to drop him.
>
> Eventually it came to me via the grievance route. I listened, talked at length to Mr. Wright — and sensed the difficulty. I offered to help him get an education so that he could qualify and continue. The union objected that this was placing a burden on him, and that I did not have the right to impose such a condition.
>
> Mr. Wright accepted, however, and started night school — and thus was born our edu-

cation program then and there.

I should like you to consider for a moment the enormous task this man undertook. He was transferred to a night shift so he could attend school, thus carry out his responsibility to his job and family as well.

The first few months were heartbreaking. He wanted to quit a dozen times. He was terribly embarrassed to be in school at a grade lower than his own children. He found the school work difficult — particularly after a full day's work in the plant. The personnel director, his foreman and myself literally kept him going with tutoring, with personal praise and understanding. We wouldn't let him quit.

Today, Wright is a foreman — in printing. He is also a sophomore in college, studying engineering. He completed his grade school in one year, and got a high school equivalency certificate in one year. His rate of pay is now about $12,000 per year.[12]

There is little question that ABE as a component in job training has proven effective. This has been the experience since the classic model established on the Norfolk Campus of Virginia State College in 1962.[13] Results have been sustained and consistent in other parts of the manpower program; for example, the Job Corps reports that for each ten months in the program, the averabe corpsman gains 1.5 grades in reading and 1.8 in mathematics, as compared with 0.6 in each prior to entry in the Corps.[14] Comparable gains are noted in reports from regular MDTA projects as well as those under other phases of the manpower effort, including National Alliance of Businessmen - Job Opportunities in the Business Sector (NAB-JOBS), Opportunities Industrialization Center (OIC), Work Incentives Program (WIN), Operation Mainstream, and many others. This accumulation of evidence, although somewhat amorphous, has sufficient weight to cause the following generalizations to be included in the 1969 Manpower Report of the President ". . . operating principles which . . . have gained wide acceptance. . ."[15]

The motivational barrier can be cracked. While this presents unique problems with each individual, E & D analyses suggest that the basic values which are a key to motivation are much the same in disadvantaged individuals as in the rest of the population. Most of the disadvantaged are not so much alienated as frustrated. When the relevance of training to getting good employment is demonstrated, the ambition to perform is aroused.

Rapid literacy training is possible. On the average, capability in reading, word mastery, and arithmetic can be raised 2 grade-level years through several hundred hours of instruction. An individual with an eighth-grade capability can be trained to pass a GED (high school equivalency) test in less than a year, even when such literacy training is combined with occupational training. Armed with newer technologies and insights into methods for teaching disadvantaged adults, further improvements in performance are attainable. And there is growing recognition that concentration on "job language" training can quickly develop literacy gains necessary for employment, even when overall literacy levels are not raised markedly.[16]

ABE fits well into the manpower salvage program. The broader challenge is to reach those individuals outside the perimeter of this effort and also to induce broader and continued growth even in the manpower trainee who has achieved his immediate goal of a job. Major responsibility for this first massive mission is properly assigned to the Office of Education with the Adult Education Act of 1966 as the principal tool. It deserves coordinated support from all institutions and agencies and requires the escalated appropriations recommended by the National Advisory Committee on Adult Basic Education.[17]

Considerable hope for the task of rapid literacy training rests in more refinement of ABE in manpower development programs so that articulation is achieved with further educational experiences. Bearing on this are the findings of a follow-up study of the men in the previously mentioned Norfolk project, which shows greater occupational progress and general development for the trainees who received a combination of general and technical education.[18]

A few glimmers of insight and understanding illuminate dimly the chronicle of ABE under the manpower effort. Perhaps the paucity of more respectable research can be explained on the grounds that the operators of the programs have been too engrossed in the practical concerns of running programs to undertake the necessary experimental designs. Rather, they have introduced innovations somewhat cautiously as these have seemed to prove effective, choosing the possibility of some predictable gain in place of the venture of investing the time and funds required for maximizing the yield through comparative studies.

The urgency of uninterrupted service to people notwithstanding, now is the time when serious investigation should be mounted in such areas as those so insightfully identified in the paper by Griffith and Hayes[19] or in an earlier paper by Aker and Carpenter.[20] Experience in ABE in the manpower development programs points to certain research needs as deserving high priority. Among these are:

1. Determination of the personal and professional characteristics of teachers of basic education for the educationally disadvantaged required for success.
2. Development of preparatory and in-service teacher training programs to produce such teachers.
3. Hard-headed comparative measure of the effectiveness coupled with cost-benefit analyses of the great variety of materials and systems for ABE.
4. Study of the effect of the setting on recruitment, retention, and achievement in ABE programs.
5. Pilot studies of a system's approach to the motivation of the entire educationally disadvantaged population of a community and to the development of appropriate programs of education and related services.[21]
6. Means for coordinating the entire ABE effort among the many organizations and agencies, public and private, that are engaged in it.
7. Development of a common system for the effective and comprehensive collection, storage, and dissemination of information definitive of the characteristics of students, teachers, programs, and of research findings in ABE.

Sexton's findings in her review of the fifty-five experimental and demonstration projects (E & D) under the MDTA included some that were somewhat outside of tradition.

1. ABE teachers should be chosen on the basis of ability to relate to the students, with no requirement as to certification, experience, or academic preparation.[22]
2. The best ABE teacher may be the vocational instructor who assumes the role of a "life-skills educator", teaching not only job skills but basic education as well and also supplying counseling, job advice, and other services.[23]
3. Learning in ABE is accomplished best on the job.[24]

These and other intuitive conclusions need to be tested by a substantial and orderly program of investigation.

In approaching the complex problem of maximizing the output in learning benefit from ABE programs, there is much to render cause and effect relationships indistinct. Adult basic education begins, of course, with the initial motivation and recruitment and ends when the student leaves the program. Many are the activities and conditions in between that affect the eventual yield in quantity and quality. Any claim that one influence, or variable, such as pursuit of job skills, is a dominant influence controlling motivation or achievement in basic education as compared with, say the goal of social acceptance, would have to be established by research designs that hold constant or cancel out such variables as difference among learners, the characteristics of the teacher, the quality of instruction, the effectiveness of the learning system or materials, and the effect of the setting. To this time judgments have been largely subjective, although persuasive.

In summary, the American people view employment as a right and a responsibility. Yet 2,600,000 people remain unemployed in the United States, often because of undereducation. While the 60's have seen a proliferation of programs aimed at increasing employability through job training and basic education, rigorous research on and evaluation of the relationship between occupational goals and motivation for involvement in adult basic education is lacking. In this paper, the conclusions of several reports and studies were discussed and several research needs were identified.

NOTES

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2. Robert C. Bolles, *Theory of Motivation* (New York: Harper & Row, 1967).

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Programs

COUNSELING ADULTS

William F. Brazziel

This paper utilizes findings of research and experience relating to counseling needs which was completed in 1964 under a grant from the Office of Manpower, Automation and Training (OMAT) of the U.S. Department of Labor;[1] findings of a demonstration-research project completed in 1965 under grants from the U.S. Office of Education and the Department of Labor;[2] and an analysis of the experience with counseling approaches used by some of the new antipoverty programs, including the Jobs program of the National Alliance of Business (NAB), the Concentrated Employment Program (CEP) of the Department of Labor, and the Job Corps. This paper is divided into four parts: a definition and brief history of the problem, indications of counseling needs, counseling and guidance procedures which have been used, and implications.

Counseling is commonly defined as part of a system of guidance services designed to help individuals realize their full potentials. Most counseling and guidance literature deals with high school and college programs, but the principles in the field, with notable modifications, are used widely in the development of services to help adults realize their full potential. Guidance programs are thought to have started in 1908 in an effort to help workers adjust to dislocations from mechanized textile factories in Boston. Significantly, the first guidance and counseling center carried the title of the Breadwinners Institute.[3] Many recent principles and practices of the counseling process itself have emerged from experience and research in programs to assist veterans of recent wars to continue their education or find a place in the work force. Other principles and practices have come from the fields of psychotherapy, industrial psychology, and rehabilitation where adults have served as the main clients. Counseling adults, then, is not at all a new field of endeavor. Our present efforts in the expanding adult education and manpower programs can be regarded as a logical extension of research and experience in a vital profession.

Given a clearly defined clientele to serve over a period of time, counselors usually will be able to develop a catalogue of common problems and common blocks to full development of their clients and, again over a period of time, will develop procedures and strategies for dealing with these problems. We can see this process of cataloguing and finding methods of coping with problems emerging in the new programs. New forms of guidance and counseling are evolving. The National Alliance for Businessmen (NAB), the Department of Labor, and the programs financed by the U.S. Office of Education have developed creative new approaches.

Indications of Counseling Needs

How do adults without prior experience in adult education perceive formal adult classes and manpower training? In probing for obstacles and inhibitions to enrollment and persistence of attendance, which directions can the counselor take? How can group guidance and media programs be structured to meet needs?

OMAT used as subjects 115 men who enrolled in manpower programs and 224 men who were offered the opportunity for training and declined it in the Hampton Roads, Virginia, area. A Likert-type survey instrument was used to interview the men and collect data to test ten hypotheses regarding nonenrollment. The hypotheses are as follows:

1. Communications with the men did not adequately convey the requirements for enrollment in or the potential benefits of the programs.
2. Education and training, work experience, and family characteristics differed for enrollers and nonenrollers.
3. Men who did not enroll in the program felt that the training allowances were too low.
4. Men who did not enroll would have felt academically insecure in formal classroom work.
5. The idea of school attendance by older persons conflicted with cultural expectations for the men who did not enroll in the program.

6. Men who did not enroll regarded the training program as a form of government relief which would have compromised their self-respect.
7. Men who did not enroll had some reservations about the possibility of migration for job placement.
8. Men who did not enroll in the programs felt that the economy would eventually reabsorb them.
9. Men who did not enroll felt that they would experience difficulties in job placement.
10. Men who did not enroll in the program lacked self-reliance.

Hypotheses one, two, and three were supported by the data, but more important are the problems expressed by *both* groups (enrollers and nonenrollers) in the interviews. For example, while significantly more nonenrollers than enrollers stated, in effect, that they did not understand the program, both groups thought that learning would be hard for older men and both had deep reservations about leaving the area to try to find employment. The counselor with his broad system of guidance services and media contacts must work toward change in the self-concepts of his clients.

In the Likert-type guided interview, the subjects were read two statements which embody opposite points of view on a matter at different times in the interview. The men were asked to agree, disagree, or indicate "can't say" to each statement. For scoring, the first listed response was positive and was given 1, 2, 3 weights. An average response rating then was computed for the groups on each pair of questions with 2 denoting complete disagreement with the stated attitude and 6 denoting complete agreement. An example of a pair of questions appears below:

> The training allowance of $25 per week for the new program is too little assistance for a family in this area.
>
> The government allowance of $25 per week for the retraining program is enough to help a man who really wants to go to school.

An average response rating of 5.0 to 5.1 was compiled by all groups on this item, indicating that training allowances was a factor needing attention.

As noted above, the proportion of men answering "agree" to a given question highlights needs for counseling. What were other areas of concern? Table 1 shows the proportion of "agree" responses from enrollers (ES) and nonenrollers (NES) for some of the statements on the Likert-type guided interview.

Only two of the statements listed in Table 1 attracted a majority response rating by the subjects, but all had a substantial number of agree responses. Counseling needs are indicated both for men who must be persuaded to enter adult education and manpower programs and for men who decide to enroll but who harbor deep reservations about the wisdom of their course of action.

Other factors which may have contributed to the hesitations of ES or NES are:

1. A highly significant number of NES had no relatives or friends who were craftsmen and had not studied a craft in school or anywhere else.
2. A large number of NES had not heard about the program.
3. A large number of NES had not heard of the Department of Labor Manpower programs.
4. Many of the men believed the local employment commission practiced discrimination.
5. Many believed that industry should take on more unemployed people and train them on the job.
6. A small number suggested that automation be regulated.

Many of the problems requiring counseling identified above arose in the demonstration-research training program. Other needs grew out of the educational program itself. Counseling programs for the CEP operations of the Department of Labor and the NAB's JOBS program were designed to deal with problems identified in the early research and the projects of research and demonstration financed by the Department of Labor and the Office of Education.

Advice based on experience by NAB to firms entering agreements to hire and train hard-core unemployed individuals is contained in a booklet entitled *Guidelines for Introducing the Hard Core Unemployed to a Productive Job.*[4] This booklet summarizes categories of counseling for disadvantaged adult students using an approach which can be generalized to most adult students. Under the heading of "Adaptation of Entry Level Standards," firms are advised to direct the personnel office to adjust hiring practices from the traditional screen-out to a screen-in approach, viewing candidates as qualifiable rather than qualified. Executives are reminded that many workers experience

Table 1

Percentage of "Agree" Responses by Enrollers and Nonenrollers

Statement	% of ES N = 115	% of NES N = 224
Older men are not able to keep up with younger men in class and would be embarassed.	32	44
People would feel funny going back to school after being out for a number of years.	60	60
No matter what trade a Negro learns, industries here will not take him on.	23	38
No matter how good a craftsman a Negro becomes, the unions will keep him out.	30	54
The government program to retrain people is just the same as relief.	23	34
People don't want to leave Hampton Roads to get work.	70	65
Work will pick up after a while and all people laid off will be called back.	29	56

complete disorientation when hit with the factory noises of heavy industry and therefore need psychological support. Also, outreach recruiting is needed for seeking out, selecting and hand delivering many of the more isolated individuals to the plant gate. NAB notes that many potential enrollers do not know about the JOBS program, doubt its sincerity, or are afraid of unknown employment situations outside their neighborhoods; findings which parallel our results. NAB found, as have others, that some of the candidates for Level 1 of the ABE classes have difficulty reading street and bus signs.

The NAB booklet also mentions preemployment counseling and advised that the new employee-student may have a number of personal problems such as:

1. A distrust of the company and of industry in general.
2. A deep lack of self-assurance or self-respect.
3. A lack of money.
4. A lack of transportation.
5. Debts.
6. Troubles with law enforcement agencies.
7. Family in need of sufficient food, clothing, shelter, and medical services.
8. No clear idea of what will be expected of them.

All of the problems listed above needed attention during the Norfolk demonstration-research project. It was finally found necessary to add a full-time social worker to assist the counselor with problems for which the delivery of services by welfare agencies became acutely necessary. Other milder problems demanding counseling were wage and income budgeting, taxes, employee benefits, using credit and understanding interest rates, human relations, and general home and family living including family planning.

Our demonstration-research project was all Negro and the majority of the JOBS and CEP clients are black people. ABE classes have many minority students which involves counseling on problems created on racial prejudice, which most writers and researchers avoid. The timidity of researchers and academicians in the area of counseling to cope with racial prejudice has had many undesirable and sometimes devastating effects. Adult counselors must learn to treat racism in a forthright manner, recognizing that many of the problems and much of the dysfunctional behavior of minorities stems from efforts to make an adjustment to racism. Counselors should read heavily in the area of race and racial prejudice. Excellent books are now available at local drug stores.[5] Newspapers and magazines carry information in this vein.

If counselors and teachers proceed as though no evidence of racial discrimination exists, they have small chance of helping the student cope realistically. Counselors, as a starter, might adopt the credo of Frederick Douglass who maintained that he was continually amazed that the Negro was alive in America, let alone sane. Recently, mass media, journalists, playrights, politicians, and church leaders have been facing the racial situation in this country far more candidly than they were previously. Educators have been slow to deal with this most serious problem of racial prejudice. Counselors, however, who want to be taken seriously by their clients, must come to grip with the problem.

What are common characteristics of adult basic education students? The black student in an evening class in adult basic education may have spent his formative years raising cotton in Mississippi. His schooling may have been interrupted when he was needed in the fields. He may have been legally barred from a library or museum in his home state. He also may have been stared at out of the libraries he passed on the way to class in his new home town. He may have been turned down for applications for certain jobs or for homes or apartments in certain areas. The school his children attend probably was built before World War II, has forty-children classes on shifts, and has half of last year's graduating class still hunting a first job. His rent may be too high for his income. He may find the shop keeper and bus driver surly; the policeman hostile. His $90-a-week job may have played out. It is quite possible that he and his family will starve to death if they return to a mechanized Mississippi.

Counseling and Guidance Procedures

Most guidance services try to lessen the actual counseling load by giving the necessary information for solution of most of the problems of a given clientele through an information service. Face-to-face counseling is usually reserved for individuals whose problems are so overwhelming or whose perceptions so distorted by events of the day that they are unable to deal with their situations with information alone. Deep insecurities often make counseling necessary also. Many individuals are able to make constructive analyses of their problems from available information but have been so traumatized by experiences that they require psychological support, sometimes therapy, to take the necessary steps in a plan of action.

It is axiomatic in the guidance field that an overworked counselor should take steps to improve his information service. Information services assume a critical role in any program involving sizable numbers of students or trainees. Such services are even more important if these clients are poor or may be subjects of racial discrimination. Information services are offered in various ways in guidance and counseling. Some public schools offer guidance classes and classes in occupational information. Others offer classes on the home and family living. Still others depend of guidance clinics, bulletin boards, a guidance collection in the library, school assemblies, and homerooms. Some offer combinations of these. In all of the programs the counseling offices are always open to those who feel they need their concerns considered on an individual basis. Adult programs have leaned heavily toward information systems of reading materials with counseling often no more than a chance encounter with an interested teacher. In the military services, films are used extensively as an information medium with the chaplain assuming responsibility for much of the counseling. The newer adult programs are doing much more to structure both the information and the counseling systems. The greater the stress apparent in client situations, the greater the resources needed for the systems.

In the Norfolk research-demonstration project a course was developed entitled Occupational Information and Human Relations, taught by a guidance counselor who also served as the counselor for the project and carried part of the counseling load. A social worker later added to the project carried the remainder of the counseling load. The project director and teachers also did valuable informal counseling. This informal counseling could be termed an information and sounding board service rather than counseling in a formal sense, but the value cannot be overestimated.

Topics covered in the information class resembled the list of needs listed in the NAB booklet, involving reading, discussion, and films designed to help the students understand the world of work as related to the skilled craftsman and to understand himself, his motives and behavior, and those of the people in his life space. An attempt was made to develop insights regarding money, ambition, and opportunities for getting ahead. Problems received by the counselor often grew out of reading, viewing, and discussions in class. These problems ranged from the mild concerns of preparing for a job interview to deep concerns about sex and aggression.

Counseling procedures in the Norfolk project took the usual route of a sustained relationship between counselor and counselee over a period of time starting with periodic interview sessions and terminating in the gradual emancipation of the counselee from the counselor. In the interview sessions the procedures were followed to establish rapport, catharsis and abreaction were achieved, information given, alternatives considered, and next steps planned. Both the counselor and the social worker used an approach between the eclectic and the Rogerian nondirective. It is probably difficult or impossible to practice directive counseling with adults.

Follow-ups with the clients seemed to indicate that those who took the general education core which included the information class together with language arts and number skills were more successful in their careers than were those who took technical training alone. The follow-up study was completed one year after completion of training and placement. A list of the differences in performances follows. All statistics were significant to the .05 level at least.

1. A greater percent of General education (G.E.) trainees were employed than non-General education (non G.E.) (95 to 74 percent).
2. A smaller percent stated that they had made a poor choice of trades (13-23).
3. A larger percent had deliberately changed their trades in order to achieve upward mobility (25-9). An example is a sheet metal trainee who became an automobile salesman, an electronics trainee who became a manager for a hamburger franchise.
4. G.E. trainees earned more money per week ($83 - $71).
5. G.E. trainees listed G.E. experiences as significant factors in their success. Some quotes include: "feel more confident in my work," "learned to act and react under supervision," "basic background improved," "know more about life — want more."

Three recent antipoverty programs, Job Corps, JOBS, and CEP have developed what appear to be highly effective counseling approaches. Job Corps builds its counseling around a Residential Living Program.[6] The manual states as goals of the program positive change in personal hygiene, recreational and leisure time activities, student government, resolution of group living problems, and counseling. The Job Corps counseling approach departs from the unified effort of career-education-self stressed by many professionals. The residential program takes primary responsibility for social and attitudinal development. Responsibility for career and education counseling are assumed by shop and classroom personnel. Job Corps participants also practice group counseling in small groups of six to eight, "dorm groups" of twenty or less, and community meetings of large groups.

CEP uses basic orientation classes limited to thirty to thirty-five trainees who are enrolled in "in-take waves" for one-stop employability assessment, counseling, training, placement, and follow-up support.[7] The CEP programs employ an outreach worker to reach the hard-to reach potential participant and a counselor to provide orientation and personal counseling. The psychometric techniques of aptitude testing are replaced in many programs for undereducated clients with work-sample techniques to assess talents and work capacities. Follow-up support is provided by a coach. Both the coach and the out-reach worker are nonprofessionals.

The JOBS program depends heavily on a buddy system for counseling in addition to occupational information courses which accompany classwork in ABE.[8] In the buddy system each recruit is assigned an established employee as a mentor-counselor. The buddy explains the intricacies of the job, helps the trainee work out a bus route, picks him up and takes him to work if necessary, and generally serves as a friend with whom the trainee can talk both on and off the job.

Implications

Administrators and teachers in adult basic education programs generally agree that their students are faced with a staggering number of problems and have seriously limited resources to use to solve their problems. Although conclusive research on the relative advantages and disadvantages of various types of counselors and counseling approaches is lacking, it appears undeniable that the provision of any assistance should make it easier for the ABE student to devote more of his efforts and energies to intellectual pursuits.

One of the challenges of the future may be a wider provision of counseling services for ABE programs with no job training component, programs which may require even more intensive counseling than manpower programs which lead to jobs. Based on the author's experience, a ratio of one counselor or teacher-counselor for at least every 200 to 300 students would be suggested for inclusion on tables of organization for most adult education programs. Experience suggests that in stress areas the ratio may need to be as low as one counselor to 75 to 100 students.

The development of counselors for adults is an acute problem. The new Education Professions Development Act should be pressed into service to train counselors for disadvantaged adults. Colleges and universities must develop the training of counselors in their adult education programs. Little training for counselors is now available.

Obviously, much basic and action research is needed in the area of adult counseling. The CEP work-sample technique for aptitude appraisal is a start in the right direction. If test manuals were to report plural norms, in the manner of the National Teacher Examination on its Common Examination, perhaps more comparable and meaningful data could be collected. Not only do counselees need more intensive study, but also research is needed on the recruitment, training, and duties of the effective counselor.

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PROGRAM DEVELOPMENT FOR ADULT MIGRANT EDUCATION

José A. Cárdenas

This paper is divided into three parts: (1) what exists at present in the education of the adult Mexican American; (2) the characteristics of what appears to be an effective evaluation system; and (3) needs in the education offered the adult Mexican American.

What Exists

Lack of success in the education of the adult Mexican American, and especially the migrant Mexican American, is evident. Though many programs in adult basic education (ABE) and adult migrant education (AME) have been initiated in recent years, efforts in this field date back farther than most of us care to remember. My first activity as a teacher more than 20 years ago was in ABE. In more recent years federal agencies have initiated many new programs under a wide variety of acts and titles. In spite of the length of the effort and the recent intensity of offerings, statistics on the illiteracy of the Mexican American or migrant, on the persistence of poverty, on the lack of a substantial increase in economic mobility of this group, on the lack of salable skills, on the inability to meet entrance requirements for vocational rehabilitation, and on the lack of success in job retraining when accepted indicate anything but overwhelming success in the education of the migrant.

In some cases the reasons for lack of success are bewildering. Carefully thought out programs have been implemented with little longlasting success. In other cases the reasons for failure are so obvious that programmatic activities appear pathetic and at times even ridiculous. Witness the adult migrant standing in the corner of the classroom, carefully contemplating the juncture of two walls. When asked what he was doing there, he admitted to being asked to stand in the corner for failure to complete his homework.

The obvious lack of understanding demonstrated by such incidents is easily dismissed by most educators because of its extremism, but the ignorance about the learner's characteristics which it indicates is dangerous even in its least extreme forms. The movement to educate the Mexican American and the migrant is seriously handicapped, if not crippled, by the lack of real understanding of the characteristics of the Mexican American as well as the adult as a learner, of the constraints which may be operative in his effort to learn, or of the problems which have historically besieged the Mexican American as an individual and as a member of a collective unit.

Much of the documentation on the Mexican American currently employed by educators has emanated from sociologists or from historians. The activities of cognitive psychologists, affective psychologists, curriculum specialists, or educational evaluators have not yet been directed at this, the second largest minority in the United States. It is not diffucult to find information on the forces of "machismo" and witchcraft operative in a rural Mexican American community in Texas, but even in this crisis-motivated age, we have not been able to produce a reasonably effective instrument for measuring the real achievement of the Mexican American learner of any age. There are not yet intelligence tests that accurately measure the intelligence of any disadvantaged adult, whatever his ethnic background.

Educators, for all their good intentions, are often guilty of planning their programs for Mexican Americans on the basis of a stereotype. Recent immigrants from Mexico who might have completed the equivalent of a high school program often are placed in the same class with Mexican Americans who are illiterate in any language. Not only are they placed in the same class, but they are motivated — or unmotivated, as the case may be — in exactly the same way; they are presented the same curriculum materials; and they are taught by identical teaching strategies, if such haphazard efforts at teaching may be called teaching strategies. The subgroup within the Mexican American community made up of migrants represents a unique segment of the population, with unique problems and characteristics which are all too often dismissed by educators, who mistakenly see all Mexican Americans alike.

The Mexican American feels many constraints upon learning. His negative self-image is often reinforced by thoughtless official categorizations. For example, a recent report of the National Advisory Committee on Mexican American Education states, "Mexican Americans account for more than 40 percent of the so-called 'mentally handicapped' in California." Obviously, this cannot be so. The fault lies in ourselves as educators, unable to analyze the factor operative in the cognitive style of the Mexican American that causes him to be so categorized.

For the adult Mexican American and the adult migrant, the educational process if often greatly inhibited because of factors outside the traditional educational framework. Health, clothing, psychological, work, and recreational needs constrain him as a learner. For many Mexican Americans, migrant and nonmigrant, education is a luxury.

Because relevant information about the Mexican American has been lacking, many of the programs developed have not answered to the existing problems. Most ABE and AME programs have been adaptations of those programs developed for children. The folly of adapting a program for children to teach adults is obvious. Even more obvious is the folly of adapting a program designed for middle class American children to teach Mexican American adults. The lack of appropriate materials and methodology and the failure to utilize developing technology and instructional media has seriously handicapped efforts to educate the adult Mexican American.

As is well-known, staff for ABE and AME programs have consisted of moonlighting teachers employed in the regular school programs for children. The result in too many cases has been devastating, as teachers have been unable to devote adequate time to either responsibility. The individual teacher's ineffectiveness is usually compounded by lack of training in teaching adults. While some in-service training programs ususally accompany the federal programs now aimed at the adult learner, it is reasonable to assume from present programs that much more extensive training is necessary. Many in-service training programs do not include basic information about the living conditions of Mexican Americans, their working conditions, or the rewards, if any, that these offer the individual. The need to sensitize the teacher to the actuality of life for the Mexican American adult, migrant or nonmigrant, becomes apparent when viewing existing teaching situations. The teacher of adult Mexican Americans needs to be able to understand that while the Mexican American has a very real sense of pride about his origin, he has not been able to reconcile effectively the sad reality of his present life with the grand and glorious past.

From sociological writings it is difficult for educators to come to grips with some of the problems of the Mexican American. Sociologists do not tell us, for example, that the Mexican American, if he chooses to remain steadily employed, often has to underplay his own intelligence, unless he is lucky enough to have an employer who is not so insecure as to fear his intelligence. An educator of migrants will not be effective if he is not aware of the dynamics of a situation which encourages pretended stupidity. Teachers also must be taught that slowness is not necessarily equal to dullness. On the contrary, in the Mexican American culture slow deliberate verbalization is often a requisite to the significance given what is being said.

The teacher of adult Mexican Americans is in many cases either insensitive to the language difference or overly anxious to relate all of the learner's difficulties to that difference. In other cases he seems to have either no appreciation of the Mexican American's culture or is overly anxious to view his culture as a quaint aggregate of wandering guitarists and overly spiced food.

The current emphasis on bilingual education is certainly a very good beginning in correcting this. However, in addition to teaching bilingually, there is a need to help teachers develop a bicultural teaching style which will complement the bicultural learning style of the adult Mexican American learner.

The CIPP Model

If we are to develop a program for an educational encounter for the adult Mexican American that is not dysfunctional for him, we must begin by developing a model that will enable decision makers to choose among alternatives while using the best information that is available.

One most useful formulation has been proposed by Stufflebeam and Guba in the CIPP model.[2] CIPP is an acronym formed from the names of the four basic types of evaluation, identified as context, input, process, and product. Evaluation is defined as a process of providing and using pertinent and timely information for making educational decisions, not a qualitative determination issued from some authority after a program or activity is completed, and it does not matter anymore. This definition sees evaluation as *continuing* (cyclical and looping), *multifaceted* (involving many different methods and techniques), *practical*, and *relevant*.

Context evaluation is mainly concerned with providing information about the setting within which the educational activity is taking place. Context data are collected not once but continuously, and their nature may be constantly changing as new requirements and needs are introduced. A good context evaluation provides status data whenever and as often as may be required.

Input evaluation involves the dilineation and relative worth of decision alternatives. It provides the information focus of the decision. It is carried out in terms of the variables and criteria that have already been defined through the context evaluation. The products of input evaluation should be a reasonable set of alternative responses, arrived at either by compiling those in existence or by generating new ones by an ad hoc method, and a weighing of those alternatives in the form of probabilities to indicate their success potential. The decision maker is then confronted with a range of possible choices and some basis for deciding among them.

Process evaluation is related to implementation of the selected alternative. It is concerned with signaling process decisions that need to be made and providing data that illuminate those decisions. To use an analogy, process evaluation is a guidance system, both in the sense that it signals whenever the program is off course and also in the sense that it provides a mechanism for correction. Process evaluation is concerned both with debugging and perfecting.

Product evaluation is concerned with final outcomes. The major decision with which product evaluation is concerned is whether or not the item being evaluated should be retained, eliminated, or altered in some way. Hence, Stufflebeam has characterized this mode of evaluation as particularly suited to recycling decisions.

This systematic approach to evaluation is presently being used by the Texas Migrant Educational Development Center of the Southwest Educational Development Laboratory in the development of educational programs for migrant children, as implemented by Robert Randall.[3] The model is also being used in the development of a program for migrant secondary education. In the developmental process, students, parents, teachers, administrators, community leaders, and individuals not within the traditional educational framework were afforded an opportunity to express their perceptions of the problem. A second group made up of physicians, cultural anthropologists, lawyers, dentists, economists, political scientists, a state senator, educational psychologists, industrial psychologists, sociologists, demographers, linguists, educational philosophers, and artists was then given the opportunity to analyze the contributions of the first group and to express their perceptions of the problems.

In the second stage of development educators as well as members of other disciplines expressed their perception of the delineation and relative worth of decision alternatives. This additional input was then made available to decision makers who now have a range of possible choices and some basis for deciding among them.

One of the most interesting aspects of the findings has been the discovery of a number of dysfunctional responses to problems in migrant education being made by school personnel. As an example, school personnel were urging families to drop out of the migrant stream in order to improve educational opportunities for their children, in spite of the fact that the community is already experiencing an unemployment problem and there is little or no hope of the migrant being able to earn sufficient money to prevent starvation if he does not migrate to some other area where agricultural jobs are at least temporarily available. Thus, we see that employing a CIPP model helps to ensure that the solutions that are developed are compatible with the world of the individual experiencing the problems, not with that of the individuals attempting to find solutions.

Needs

A review of the limited findings of researchers in the area of the Mexican American adult learners, forces the conclusion that presently information is not available in a useful form to develop a solution to the problem of providing an education for the adult Mexican American that is functional to him and that does not assault his sensibilities.

A CIPP model might allow an attack on the problem. There is a need to determine the nature of the problem or problems not only as perceived by educators, but as perceived by adult Mexican Americans, sociologists, economists, psychologists, politicians, and others. To develop an innovation that the Mexican American can integrate into this world, the real nature of his world must be known. This is possible through context evaluation.

Efforts to educate the Mexican American have suffered from the lack of a developmental model founded on decision-making based on pertinent evaluative information.

Among other things which we will probably have to consider in developing alternative strategies is whether education for the adult Mexican American must be only compensatory in nature. The statistics on Mexican American education indicate a great need for compensation, but it is possible that Mexican Americans wish to learn about their own culture as well as, or rather than, the dominant culture. Input evaluation based on the context evaluation should delineate many such alternatives.

For the migrant, enslaved by his world of hopeless poverty, we must provide adult education that fulfills its purpose as a means to freedom. For freedom only exists when there is freedom of choice, and for this group meaningful education appears the only avenue for creating freedom of choice.

NOTES

1. National Advisory Committee on Mexican American Education, *Search for Equality* (Washington, D.C.: National Advisory Committee on Mexican American Education, 1968).

2. Egon G. Guba, "Evaluation and Change in Education" (Paper delivered at the Elk Grove Training and Development Center Spring Evaluation Conference, Arlington Heights, Ill., May 16, 1968); Daniel L. Stufflebeam, "Evaluation as Enlightenments for Decision-Making" (Paper delivered at the Working Conference on Assessment Theory, Association for Supervision and Curriculum Development, Sarasota, Fla., January, 1968).

3. Robert S. Randall, "An Operational Application of the Stufflebeam-Guba CIPP Model for Evaluation" (Paper delivered at the Annual Meeting of the American Educational Research Association, Los Angeles, Cal., February, 1969).

HEAD START PARENTS' ADULT BASIC EDUCATION PROJECT NEW YORK CITY

Joseph Mangano

The Introduction

Adult basic education as it has evolved since federal funding under Title II-b of the Economic Opportunity Act has had as its major concern the raising of literacy skills primarily for prevocational or vocational training and has recognized in its curricula development two major audiences, the native born or English-speaking undereducated adult and the person in need of English as a second language. This latter group primarily speaks Spanish. With such a basis it is the feeling of this writer that the term adult basic education has led curriculum developers away from rather than toward specific curricular activities designed for specific populations. The native born and non-English-speaking populations differ in personal objectives, societal values, and cultural backgrounds. With such differences in population in mind, a program was developed by the New York State Education Department in cooperation with the New York City Board of Education, Bureau of Community Education, which would appeal to parents who desired to learn more about the education of their children, their neighborhood public school as a social institution, and their role in assisting their children to meet with success in the school situation.

The Head Start Parents' Adult Basic Education Project was offered in New York City in July and August of 1967. The program consisted of ninety classes scheduled for one hundred hours of basic education instruction for undereducated parents of children who were enrolled in the Head Start Children's Program. The goals of the parents' program, as outlined in the proposal, were to develop and implement specific curricula, to offer special services, and to assess innovative practices.

The Program Objectives

The objectives of the program included the following:

1. To acquaint parents of Head Start children with the philosophy, goals, and content of the curriculum of the program and to develop an understanding of the importance of the parental role in the education of their children.
2. To utilize the area of parent and family life education as the core of a literacy and basic education program.
3. To provide other educational services, not otherwise available, to members of the neighborhood community who were parents of prekindergarten children, such as counseling services, and specific assistance through referral to appropriate agencies, when possible.
4. To establish personal relationships between participating adults and the neighborhood public school so as to encourage two-way communication between the administration and faculty and the parents of the population which they serve.

THE PROGRAM DESCRIPTION

The ninety adult basic education classes were operated in centers organized in public, parochial, and other agency schools where Head Start children's classes were being held. Classes ran half days concurrently with the Head Start programs for a total of 100 class hours. A prerequisite for registration in these classes was that the adult must be a parent (or *in loco parentis*) of a child concurrently enrolled in the summer children's program.

The total number of students who registered was 1,448. Classes were designated as Non-English; Basic Education for native born Americans; and Mixed, indicating a combination of non-English-speaking and native born Americans. Of the ninety classes, fifty percent were Non-English, twenty-six percent were Basic Education, while twenty-four percent were Mixed.

The personnel involved in this project included a project director; a curriculum specialist, who also was responsible for the supervision of the instructional aspects of the project; a guidance supervisor; ten teachers-in-charge who were responsible for the supervision and administration of the ten centers, each comprising nine classes; ninety teachers who were recruited from existing adult basic education programs or who were newly trained; ten guidance counselors experienced in dealing with disadvantaged adults, who were responsible to the teachers-in-charge to whom they were assigned; existing educational resource personnel who helped with preservice and in-service training of the staff of the project; ten teachers' aides; and a recruiter who contacted community and parochial school agencies and other city agencies, such as social service, health, and the Neighborhood Youth Corps for the purpose of referral, training, or other involvement.

THE ORGANIZATION OF THE PROGRAM

The Planning State

The administrative groundwork for the Head Start Parents' Program was laid during the spring of 1967. Letters were sent to district superintendents in poverty areas of the city asking permission to contact certain principals within their districts who could help recruit parents for classes to be established in their respective schools. Schools chosen for parents' classes were those slated to have three or four units of Head Start children's classes. Where permission was received, letters were then sent out to the principals enlisting their aid. In most of the schools enrollment of both parents and children was affected by the school secretary or by the family assistant, who was part of the staff of the ongoing prekindergarten program.

Direct contact was maintained with the director of the Head Start Children's Program for better liaison between the two programs. The curriculum specialist and the recruiter attended meetings held for the personnel of the children's program and acquainted them with aims and goals of the parents' program, in order to further joint planning and general coordination of both programs for maximum effectiveness.

The Recruitment Procedures

The main avenues of recruitment of students for the Head Start Parents' Program included schools slated to have Head Start children's classes; school secretaries or family assistants in these schools, who enrolled children and parents in the summer Head Start classes simultaneously; the recruiter; posters advertising the program in English and Spanish; letters to parents and application forms written in English and Spanish which were sent to the schools and to community and parochial agencies to be distributed; the curriculum specialist, who established personal contact with the family assistants in about ninety schools to encourage the enrollment of approximately fifteen parents to a class; and the teachers themselves, who acted as recruiters at the inception of the program during the week prior to the opening of classes.

The Preservice Training

A series of preservice orientation sessions for the ninety teachers, the ten guidance counselors, and the ten teachers-in-charge were held for ten hours total duration. A supervisor of basic continuing education from the state education department attended sessions and assisted the New York City staff in acquainting the teachers with the goals of the program. The guidance supervisor covered the large group, small group, and individual guiidance aspects of the program. Specific training for teachers in methodology in areas of basic communication, reading, and arithmetic skills was given. Time was also allotted for training in other areas such as administering tests and record keeping.

THE METHODOLOGY

Basic Education Classes

The keynote in methodology in the parents' program was individualization of instruction which was necessitated by the heterogenous structure of the classes. Reading was taught through interrelated communication skills. Emphasis was placed on oral discussion because: (1) it revealed to the teacher the language needs and other related needs of the students; (2) it helped dissipate self-consciousness on the part of the student; (3) it created a social climate conducive to learning; and (4) it gave the student the opportunity to use the language and improve his ability to speak and listen.

Discussion was followed by vocabulary developed in response to pertinent questioning by the teacher. Vocabulary charts and other teacher-made reading charts were the basis for teaching work-attack, comprehension, and word study skills.

Non-English-Speaking Classes

In the teaching of English as a second

language the aural-oral approach was recommended. This method sought to teach vocabulary and structural patterns of the English language by visual associations, oral demonstrations by the teacher, and repetition by the students, leading eventually to the development of the controlled theme, when reading instruction took place.

A special pilot study was conducted to determine whether illiterate non-English-speaking students could be taught to read English faster and with more facility if they were first taught to read in their native tongue. This experiment was conducted by a bilingual teacher. Also, a pilot study was conducted in which reading in the student's native language and in English were taught simultaneously.

Although all conclusions from the pilot studies can be only tentative, the following points seemed to emerge: (1) the teaching of bilingual reading seemed to facilitate the acquisition of the skills of reading in the target language, when compared to the traditional methods; (2) no effect of negative transfer was noted, positive transfer seemed evident; (3) a totally unexpected effect was the remarkable improvement in accent elimination; and (4) aural discrimination was enhanced.

The tentative outcomes of the pilot studies might be explained by the following: (1) Spanish is a phonetic language and therefore easier to learn to read than English. The students' early success established a positive step toward future learning; (2) the method of bilingual reading permitted the use of contrast and discriminative learning to a far greater extent than traditional methods. Between-language contrasts presented more striking differences and therefore were more apt to be remembered than within-language contrasts; and (4) a lack of denial of the student's native language within the learning situation strengthened the student's self-image.

The method of bilingual reading seemed to offer great promise in the teaching of English as a second language to reluctant adult learners. However, there is a need for more bilingual teachers who are trained to teach adults for whom English is a second language.

THE GUIDANCE PROGRAM

The Purpose and Description

The area of guidance most stressed in the Head Start Parents' Program was that of helping the parent to help the child. Because so much of the prekindergartener's valuable school experience in Head Start is lost by the time he reaches first grade, a particularly specific effort was formulated to aid the parents in helping their children to retain their new knowledges. This effort included face-to-face interviews, group guidance sessions, and meetings between groups of parents and their children's teachers.

Another important aspect of the guidance program was help for the parent who had recently migrated from a rural situation to accommodate him and his child to life in the city. This adjustment counseling required tact and persistence because few parents would admit to being frightened by or ignorant of the problems of daily city life.

The counselors also attempted to personalize the parents' program for each of the students in the classes to which they were assigned; to combat early student frustration, thus preventing dropouts; to administer an attitude survey on an individual basis to ten percent of the assigned student population in an attempt to discover the impact of this program; to use group guidance lessons in areas of family living to bring about improved standards and practices in health, education, consumer behavior, and educational and vocational aspirations for the parents and their children; and to use the program as a stepping stone to other educational and employment programs.

The Parent Workshops

A pilot study within the guidance program established parent workshops in three areas of the city. The personnel of each consisted of one guidance counselor as group leader for six parents. Four structured sessions were held, devoted to disciplining, developing self-confidence in, and responsibility in and understanding one's children.

One of the parent workshops was composed of four native born Americans and two natives of Puerto Rico. Each had at least two children. Sessions were scheduled for forty-five minutes but usually lasted more than an hour. Each session began with a question raised at the previous meeting. Free interchange was encouraged among the participants of the group. Leadership came from the group itself. Five of the six parents attended all of the meetings. There was willingness to give and accept advice and mild group censure. Changes in group leadership were evident. There were slight positive indications of growth in the area of handling the problems of prekindergarten children.

This small group experiment seemed to offer the opportunity for the mothers to have other adults interested in them for themselves, and not as adjuncts to their children. The mothers seemed to benefit from the interchange of ideas and support they received from the group situation. The concensus of feeling expressed by the parents was that such a group would be highly useful on a year-round basis.

The guidance counselors of the parents' program influenced about seventy-five adult students to commit themselves to year-round evening classes in adult basic education. Sixty-three students were eligible for elementary school equivalency diplomas. Thirty-two parents became involved in high school equivalency diploma programs. Twenty-one complete classes indicated a desire to continue formal educational pursuits in the fall. Thirty-six students were referred for specific jobs to employment agencies. A Brooklyn counselor placed twelve parents on part-time jobs in a nursing home. A Bronx counselor placed two students at a hospital for full-time work. Seventeen parents were referred to the Manpower Development and Training Program (MDTA), nine to Haryou Act, eleven to the New York City Department of Welfare training programs, and one to the Legal Aid Society.

THE CURRICULUM MATERIALS

The Head Start Parents' Curriculum

Immediately before the start of the parents' program nine scope and sequence units and a curriculum guide were prepared for the teachers' use by the curriculum specialist with additional materials provided by the New York State Department of Education and the U.S. Department of Health, Education, and Welfare. Books and supplies were purchased which could aid in instruction for native born as well as non-English-speaking students. Teacher-developed materials proved of value in meeting the individual needs of students.

Nine units were intended to guide the teacher in his weekly and daily planning in order to cover the broad curriculum areas and to help achieve the objectives of this program, which were to teach literacy skills using the values and content inherent in the children's program as a basis for instruction. The areas covered in the units were:

> Orientation to Head Start: Getting to Know the Head Start Children's Program.
>
> Your Child and You in the Head Start Program: Health, Safety, Nutrition.
>
> Educational Experiences — Laboratory: Visiting Your Child in the Classroom.
>
> Value of Trips: A Parent-Child Experience.
>
> Self-Expression Through Art Experiences: For Children and for Adults.
>
> Language Learning Takes Many Forms: Listening, Speaking, Reading, Writing.
>
> Extending the Appreciation of Literature and Music into the Home.
>
> The Outgrowths of Science Learnings and Mathematical Concepts in Relation to Everyday Living.
>
> Evaluation of Parental Involvement in the Head Start Program.

The Curriculum Guide

The curriculum guide was prepared to help the teacher organize the learning experiences through which the goals of this program might be achieved. It stated the broad curriculum areas to be covered and the time to be devoted to each area. Seventy-five percent of the total teaching time was to be devoted to the language arts, including the skills of oral and written communication and reading; half of this time allotment was to be devoted specifically to reading. Twenty-five percent of the total teaching time was to be devoted to social living skills, including parent and family life education, consumer education, health, and nutrition. Arithmetic skills were to be taught in the context of the social living units. In addition, the curriculum guide outlined the mathematics program, depicting the methodology to be used, listing the texts, materials, bulletins, and supplies ordered for the program, and outlining the guidance services to be rendered.

Specifically, the curriculum of the parents' program provided for approximately two hours a day (for a total of sixty hours) of instruction in language arts. Instruction in mathematics, including arithmetic computation and problem solving, was provided for one hour a day (or a total of thirty hours). On the basis of the allocations of hours of instruction the program was estimated to be approximately equivalent to two months of instructional time of elementary school children in each subskill.

The Social Living Units

The social living units, developed cooperatively by two bureaus of the Division of Continuing Education of the New York State Education Department, were used by all classes in the program on an experimental basis. The units on health and nutrition and consumer education were accompanied by records or tapes and filmstrips. Packets consisting of lesson plans with background information for the instructor, worksheets for the adult students, audio-filmstrips, and flipcharts, each with an accompanying teacher's manual, and recordings related to the lesson were distributed among the ten teachers-in-charge who in turn passed them along to their respective teachers. The series of charts entitled "Keeping Well with Vaccine," part of the unit on health and nutrition, was duplicated on transparencies and shown on overhead projectors in many schools. These units triggered animated discussions following their presentation.

Rather extensive use also was recommended of published materials both for the native born and non-English-speaking classes. For evaluation of the growth of skills the Adult Basic Learning Examination (ABLE) was used.

THE METHODS OF EVALUATION

In addition to published tests, evaluation of the Head Start Parents' Program included an informal reading inventory, a statistical description of the program; the official records and observations of consultants; an instrument measuring change in attitudes; case studies in depth of a selected sample of students to determine further attitude changes; ratings of staff members; and questionnaires to teachers and to students.

Academic Achievement

The growth of the students in academic achievement as measured by the ABLE assessed vocabulary, reading, arithmetic computation, and problem solving. The ABLE norms used expressed achievement in relation to grade levels of attainment of pupils in elementary school. The norms were established by the publisher on a sample of approximately one thousand pupils per grade, and performance on the ABLE was related to grade equivalent scores attained by the school sample on the Stanford Achievement Test. Thus the scores of the adult project students were stated as grade equivalent scores. The ABLE has two levels of difficulty, Level I and Level II. Level I is designed for the achievement range for grades one through four and Level II for grades five through seven. A pretest is available. The difference between initial and final grade equivalent scores was taken as the measure of academic achievement.

Rating of English Fluency

Each non-English-speaking student was rated by the teacher individually on fluency in the use of English both at the beginning and at the end of the course. On the basis of his experience with the student, the teacher rated fluency in English on the following scale:

F	Speaks no English
E	Speaks a few words
D	Speaks haltingly
C	Speaks hesitantly
B	Speaks with a slight accent
A	Speaks fluently

Attitude Changes

An important objective of the Head Start Parents' Program was to improve the attitude of the adult students toward Head Start classes, toward their children's education and careers, and toward education in general. In order to evaluate the results attained in these areas, two main methods were used. The first was the administration of a ten-item attitude questionnaire at the beginning and the end of the program. The second method involved case studies.

The attitude questionnaire was administered orally by the teacher to avoid lack of understanding due to poor literacy skills. The results were analyzed for a sample of three hundred students, approximately fifteen percent of the total population. Differences in responses from the initial to the final administrations were tested for significance with the McNemar test. Selected items were analyzed individually as indicators of attitude.

The case studies were carried out by the guidance counselors. Each of the counselors randomly selected six students for an intensive study of attitudes. Each of the students was interviewed frequently during the course of instruction and a case study report was completed for each member of the sample. These case studies were analyzed and general trends and findings extracted for the final report. Other data on parents' attitudes were obtained from observations and from the teachers' questionnaire.

Observations of Head Start Activities

Qualified members of an evaluation committee visited the classes and other activities of the parents' program to observe operations in progress. The observations were guided by specific criteria which had been developed in preliminary conferences and which were revised on the basis of tryout. The general purpose of the observations was to provide evidence of the extent to which the planned program had been implemented, in so far as such evidence is obtainable on the basis of a limited number of visits. Visits were made to approximately ten percent of the classes in the program. Specific sites were selected to represent four principal city boroughs, but were randomly selected within boroughs. Class sessions were observed, as well as guidance functions and other auxiliary functions. Teachers and students were interviewed. In addition to recording the observations, ratings were made of the effectiveness of selected activities.

Teachers' Questionnaire

The reactions of all the teachers in the program were obtained by means of a questionnaire. The instrument had two main sections. In the first section the participating teachers were asked to rate selected aspects of the program on the basis of their experience, such as orientation, curriculum, educational outcomes, supervision, and facilities. The second section called for open-end responses in which the teachers were asked to report their judgments of the strengths and weaknesses of the program and to make suggestions for improvement.

The ratings were summarized statistically, giving a general rating for each aspect of the program based upon the collective judgment of the participating instructors. The open-end responses were analyzed for content and the resulting data tabulated and summarized.

THE FINDINGS

The findings of the evaluation of the Head Start Parents' Program will be presented here for academic achievement (in terms of standardized test scores); language fluency; attitude ratings; guidance counselors' studies; field observations; interviews; and questionnaires.

Academic Achievement

As mentioned above, the ABLE was used as an initial and final measure of academic achievement. As an initial measure, Level I of the test battery, except for spelling, was administered. Level II of the test used as a final measure, was given to the students during the last week of the program. The elapsed time between the initial and final tests was seven weeks.

For a variety of reasons scores were not available for all students in the course. The attrition in scores was due principally to the non-English-speaking students to whom administration of the ABLE was quite inappropriate, or those students who were absent for certain of the subtests. In some classes, presumably due to the exigencies of the instructional situation, the teacher did not administer all the subtests to the class. For example, in one school the vocabulary and arithmetic computation subtests were administered to the classes, but the reading and arithmetic problem solving subtests were not. In some cases the teacher judged the subtest to be too difficult for the particular class.

It had been planned originally to use either Level I or Level II of the ABLE as an initial measure, according to the teacher's judgment of the reading ability of the student. Since sufficient copies of an alternate form of the test were not available from the publisher for this newly-released test, Level I, Form A was used as an initial measure and Level II, Form A as the final measure. Level I has a ceiling at grade equivalent score 6.0, and Level II has a ceiling at grade equivalent score 9.0. The ceiling of the Level I test was a serious limitation in measuring the growth of reading skills of the better readers. For example, a student might obtain, as some did, 6.0 on the initial test and 9.0 on the final test. This cannot be regarded as a gain of 3.0 years in reading grade, because the initial score may have been held down by the ceiling. The obtained gain is undoubtedly an artifact in very many cases. Because of the limitations imposed by the 6.0 ceiling of the Level I test, all initial scores of 6.0 were eliminated from the analysis. The ceiling of the Level II test, 9.0, was not a serious limitation. While it may have limited gains in some relatively few cases, it operated in such instances only to depress gains and not to inflate them.

Vocabulary

Table I presents the frequency distribution of the obtained gains for each half school year of grade equivalent score. All table entries in vocabulary are limited to those students who took both the initial and the final test. The mean gain of 1.2 years of grade equivalent score was statistically significant at the .01 level. The mean grade equivalent on the tabulated initial scores was 3.6 years; the mean final score was 4.8 years. More than forty-seven per cent of the students scored gains between .4 and 1.5 years of grade equivalent score. No gain at all was made by 16.4 percent of the students. Approximately seventy-five percent of the stu-

Table 1

Grade Equivalent Score Gains

Adult Basic Learning Examination: Vocabulary

Grade Equivalent	Frequency	%	Cumulative %
3.5+	18	3.3	100.0
3.0 – 3.4	22	4.1	96.7
2.5 – 2.9	28	5.2	92.6
2.0 – 2.4	30	5.6	87.4
1.5 – 1.9	29	5.4	81.8
1.0 – 1.4	129	23.9	76.4
.5 – .9	128	23.7	52.5
.1 – .4	67	12.4	28.8
0	89	16.4	16.4
TOTAL	540	100.0	

Mean gain = 1.2 years

$t = 3.00 < .01$

dents exceeded two months' gain in grade equivalent score in the estimated two months of instruction.

Reading

Table 2 presents the frequency distribution of the obtained gains in reading, for each half school year of grade equivalent score. The ABLE reading subtest mainly measures comprehension and does not reveal particular aspects of reading which are causing pupil difficulty. However, the mean gain of 1.4 years of grade equivalent score was statistically significant at the .01 level. The mean grade equivalent on the tabulated initial scores was 3.7 years; the mean final score was 5.1 years. Nearly thirty-six percent of the students gained between .4 and 1.5 years of grade equivalent score. No gain at all was made by 19.4 percent of the students. Approximately sixty-eight percent of the students exceeded two months' gain in grade equivalence in the estimated two months of instruction.

Table 2

Grade Equivalent Score Gains

Adult Basic Learning Examination: Reading

Grade Equivalent	Frequency	%	Cumulative %
3.5+	29	6.4	100.0
3.0 – 3.4	30	6.6	93.6
2.5 – 2.9	34	7.5	87.0
2.0 – 2.4	36	7.9	79.5
1.5 – 1.9	45	9.9	71.6
1.0 – 1.4	75	16.6	61.7
.5 – .9	87	19.3	45.1
.1 – .4	29	6.4	25.8
0	88	19.4	19.4
TOTAL	453	100.0	

Mean gain = 1.4 years

$t = 2.85 < .01$

Table 3

Grade Equivalent Score Gains

Adult Basic Learning Examination: Arithmetic Computation

Grade Equivalent	Frequency	%	Cumulative %
3.5+	14	1.6	100.0
3.0 – 3.4	39	4.4	98.4
2.5 – 2.9	42	4.7	94.0
2.0 – 2.4	48	5.4	89.3
1.5 – 1.9	77	8.7	83.9
1.0 – 1.4	240	27.1	75.2
.5 – .9	221	25.0	48.1
.1 – .4	58	6.6	23.1
0	146	16.5	16.5
TOTAL	885	100.0	

Mean gain = 1.2 years

$t = 5.00 \quad < .01$

Arithmetic Computation

Table 3 presents the gains from the initial to the final ABLE administration in arithmetic computation. The mean gain of 1.2 years of grade equivalent score was statistically significant at the .01 level. The mean grade equivalent on the tabulated initial scores was 4.1 years; the mean final score was 5.3 years. Approximately fifty-two per cent of the students gained between .4 and 1.5 years of grade equivalent score. No gain at all was made by 16.5 per cent of the students. Approximately seventy-two per cent of the students exceeded two months gain in grade equivalence in the estimated two months of instruction.

Problem Solving

The gains made by the students when the initial and final scores on the ABLE problem

Table 4

Grade Equivalent Score Gains

Adult Basic Learning Examination: Problem Solving

Grade Equivalent	Frequency	%	Cumulative %
3.5+	11	3.1	100.0
3.0 – 3.4	24	6.8	96.9
2.5 – 2.9	23	6.5	90.1
2.0 – 2.4	26	7.4	83.6
1.5 – 1.9	31	8.8	76.2
1.0 – 1.4	76	21.6	67.4
.5 – .9	84	24.0	45.8
.1 – .4	22	6.2	21.8
0	55	15.6	15.6
TOTAL	352	100.0	

Mean gain = 1.3 years

$t = 2.41 \quad < .02$

solving subtest were compared are given in table 4. The mean gain of 1.3 grade equivalent score was statistically significant at the .02 level. The mean grade equivalent on the tabulated initial scores was 3.8 years; the mean final score was 5.1 years. Approximately forty-five per cent of the students gained between .4 and 1.5 years of grade equivalent score. No gain at all was registered by 15.6 per cent of the students. Approximately seventy-four percent of the students exceeded two months' gain in grade equivalence in the estimated two months of instruction.

It should be noted that the arithmetic computation subtest was completed by 885 students and the problem solving subtest by 352 students. The much larger number of students tested in computation was due to the fact that the language factor was not as great an obstacle in computation, particularly in the Level I test which is dictated by the examiner, as it is in problem solving for the non-English-speaking students or other students having difficulties in the language arts area.

Interpretation of the ABLE Results

It is clear from the magnitude of the gains registered on the ABLE that the scores cannot be considered as grade equivalent scores in the usual sense. To say that a subgroup of students gained three years in reading during one hundred hours of a summer course is not educationally meaningful. Although the scores show that a considerable improvement in reading occurred, the gains must be interpreted in the light of the instructional experience which took place.

To some extent the use of grade equivalent scores derived from an elementary school setting cannot be unequivocally applied to adult learning. It is not known to what degree the curve of learning for elementary children is similar to that for adults. It may well be that in some cases the instruction of the summer course served to refresh and sharpen reading and arithmetic skills learned in the past, but rusty from disuse.

The results should not be considered as indicative of a major transformation of personality and ability as occurs when children advance three years, for example, from the second to the fifth grade level. The growth in grade equivalent score probably has a much narrower and less comprehensive meaning for adults.

To a considerable degree the ABLE suffers from the limitations inherent in any short group test. The vocabulary test is only twenty minutes long and the reading test thirty minutes long, for example. The number of items which sample the student's ability are therefore relatively few in number. Hence, a small change in the number of items answered correctly results in a relatively large increase in grade equivalent score. On both the Level I and the Level II ABLE, the difference between a full year of grade equivalent score for the grades above grade two (Level I) or grade three (Level II) are only four or five raw score points. As an extreme case, a raw score of 44 equals a grade equivalent score of 4.8, while a raw score of 46 equals a grade equivalent score of 6.0. In other words the additional two items correct raises the grade equivalent 1.2 years. This type of grade equivalence is not merely an aspect of the ABLE; it is found for practically all short standardized achievement tests. However, such grade equivalence problems are factors to bear in mind when interpreting gains in grade equivalent scores, especially when those apply to the learning gains of adults in a relatively short summer course.

Despite the limitations which should be placed on the interpretation of scores, it is nevertheless clear that the gains made by the students were very good. On all four subtests the gains were well in excess of expected gains on the basis of the norms. In addition, the mean differences between the initial and final scores were statistically significant at the .01 level of confidence in every case except one. Since the research hypothesis had set the level of significance at .05, all mean gains were statistically significant.

Attitudes of Head Start Parents

The results of the ten-item attitude questionnaire were analyzed separately for the English and the Spanish forms. Of the ten questions asked of the parents in the attitude study, six were designed to elicit evidence of practices indicative of favorable attitudes. Specifically, a favorable attitude was indicated if the parents expressed a liking for the classes or believed the classes would help his or her children. Similarly, buying the daily newspaper, reading stories to the children, and borrowing books from the library are acts associated with desirable attitudes.

Four of the ten questions were designed to reveal the existence of problems related to negative attitudes, indicating needs which the Head Start Parents' Program could fill. Thus, if the parent felt life was difficult because of

Table 5

Parents' Attitude Questionnaire: English Version
(Number and Percentage of Students)*

Section I: Favorable Attitudes

	Yes		No		Not Sure	
	N	%	N	%	N	%
Do you like coming to this school?	427	97.9	1	.2	8	1.8
Do you think "Head Start" will help your child?	395	90.6	30	6.9	11	2.5
Do you usually buy a daily newspaper?	262	60.1	171	39.2	3	.7
Does your child ask you to read a story to him or her?	330	75.7	102	23.4	4	.9
Do you borrow books from the local library?	145	33.3	286	65.6	5	1.1
Do you or any other adult in the home ever get a chance to read to your children?	296	67.9	134	30.7	6	1.4

Section II: Problem Attitudes

	Yes		No		Not Sure	
	N	%	N	%	N	%
Is it difficult in life for you because you didn't have enough schooling?	258	59.2	142	32.6	36	8.3
Are you satisfied with the way you read and write?	128	29.4	287	65.8	21	4.8
Do you find you must get a better job?	289	65.4	102	23.4	45	10.3
Is your classwork too hard for you?	57	13.1	341	80.5	38	8.7

*N = 436

insufficient schooling, felt he or she could not read and write well enough, was dissatisfied with his or her present job, or found classwork too hard, problem attitudes were indicated.

Of the 1090 valid questionnaires completed in the English version, a random sample of forty percent was drawn, including 436 cases. The responses to each item of the questionnaire were tabulated, and the results are presented in table 5.

A study of the results of the English version section I reveals that, of the six items on which an affirmative response indicates a favorable attitude, the results generally were positive. Practically every student reported liking his class. A preponderant number of the parents also felt that Head Start would help his child do better in school. While a majority of the parents do not borrow books from the library, a large segment stated that they did read to their children. However, the large percentage of the parents who answered negatively (23.4 per cent and 30.7 per cent) reveals a noteworthy problem in the area of reading, which should be considered as a statement of practice, or an index of present status, rather than as an attitude toward reading. The response total no doubt means, not that these parents are antagonistic to reading to children, but that they do not practice it, perhaps because they cannot do so.

Three of the four problem items reported in section II of table 5 indicate the existence of difficulties. More than half of the parents considered life difficult because of insufficient schooling, were not satisfied with the way they could read and write, and thought that they must find a better job. However, parents did not consider their classwork too hard.

The Spanish language version of the parents' attitude questionnaire was administered to 275 Spanish-speaking adult students. The results for the sample are given in table 6. A study of this table reveals that the results are exactly parallel to those received for the English version; the attitudes of the Spanish-speaking group. One could conclude from the consistency of responses that the parents were generally favorable to the Head Start Parents' Program and felt a distinct need for it.

Teachers' Evaluations of Children's Adjustment

One of the most important objectives of the parents' program was to improve the education of their children. While evaluation of the school achievement of the pupils must await a follow-up study, it was possible as a part of the summer program to evaluate the children's adjustment in the Head Start classes.

A sample of eighty children whose parents were attending the parents' classes was randomly drawn from eleven classes, one in each area, spreading the sample over all the boroughs in which the program was in operation. A matched sample of eighty children whose parents were not attending parents' classes was drawn from the same eleven classes.

The teachers had been asked to rate the children on three aspects of adjustment behavior: (1) getting along with other pupils; (2) conforming to classroom procedures; and (3) significant changes for the better in behavior, if any. The results are shown in table 7. It is clear from table 7 that the teachers more often rate pupils favorable whose parents were attending the parents' program. The

Table 7

Teachers' Evaluations of Pupil Adjustment

(Number and Percentage of Favorable Ratings)

	Parents Attending		Parents Not Attending		Statistical Significance
	N	%	N	%	
Getting along with others	77	96.3	55	68.8	∠.01
Conforming to classroom procedures	74	92.5	53	66.3	∠.01
Significant change for the better	61	76.3	51	63.8	∠.01

difference in favor of this group is statistically significant on all three items.

Teacher Reactions to the Program — The Questionnaire

The teachers were asked to rate selected aspects of the program using a five point scale. (See Appendix A). A total of eighty-six teachers completed the ratings. The areas rated included the orientation sessions which preceded actual class instruction; the scope, emphasis, and sequence of the curricula; their judgment of the effects on parents; the quality of supervision; and the suitability of educational facilities. The results are presented in table 8.

A study of table 8 reveals that the ratings of the teachers are, in general, very favorable. A preponderant number are either excellent or good, with very few poor or very poor. The main exception to this trend is to be noted in the section dealing with facilities, for which ratings were noticeably lower. On the item of maintenance, twenty-five percent of the teachers considered the custodial care, cleanliness, and performance of minor repairs as poor or very poor. In general the teachers approved of all three aspects of the curriculum; ratings of either excellent or good ranged from sixty-seven per cent to eighty-four per cent. Similarly, seventy per cent of the teachers rated the orientation session as excellent or good. The item receiving the highest percentage of excellents (fifty-four per cent) was the guidance and assistance received from the teacher-in-charge or other specialist or supervisor.

In judging the effects of the program upon parents, the teachers rated the effects on parental attitudes and parental involvement in the education of their children higher than they did the effects upon the parents' academic achievement. They scored parental attitudes and involvement as excellent (fifty-two per cent and fifty-five per cent), while academic achievement was rated good (fifty-five per cent), with only twenty-nine per cent choosing excellent.

Teachers' Free Responses

The second section of the teachers' questionnaire provided for open-end responses concerning the most successful aspects of the program, the problems encountered, suggestions for improvement, and personal reactions. The results of the analysis of the free responses is not divided into findings and interpretations, because the nature of the information makes such a division inappropriate. The teachers' responses provide information and opinion which is self-explanatory. In analyzing the returns the questionnaires were first read in order to establish the categories of information contained in the responses. Then the questionnaires were re-read and the frequency of occurrence of each category of response was tabulated.

It is immediately apparent that the teachers were overwhelmingly in favor of the program. Furthermore, the open-end responses contain a wealth of information and very valuable suggestions as feedback for any continuation or duplication of the program. Table 9 indicates the teachers' responses when asked to describe the most effective aspects of the parents' program. It should be noted that the individual teacher usually cited more than one desirable aspect. Thus, the total number cited far exceeds the eighty-six teachers responding.

The effective aspect most often cited by the teachers was the impetus which the program gave to the parents' interest and cooperation in

Table 8

Teachers' Rating of Selected Aspects of the Parents' Program

(Number and Percentage of Teachers)*

	Excellent		Good		Adequate		Poor		Very Poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Orientation	24	28	36	42	21	25	4	5	0	0	85	100
Curriculum												
Scope	22	26	50	58	12	14	1	1	1	1	86	100
Emphasis	14	16	43	51	22	26	5	6	1	1	85	100
Sequence	22	26	40	47	20	24	3	3	0	0	85	100
Effects on parents'												
Attitudes	45	53	33	38	7	8	1	1	0	0	86	100
Involvement in children's education	47	55	35	41	3	3	1	1	0	0	86	100
Academic achievement of parents	25	29	47	55	11	13	3	3	0	0	86	100
Supervision	54	63	23	27	7	8	1	1	1	1	86	100
Facilities												
Housing	32	37	32	37	16	19	3	3	3	3	86	100
Maintenance	24	28	24	28	16	19	13	15	9	10	86	100
Materials of instruction	35	41	33	38	9	11	8	1	1	1	86	100
Supplies	28	33	24	28	19	22	6	7	9	10	86	100

*N = 86

furthering their children's education. This concept was expressed in varying ways, but the usual type of response may be typified in the following quotations:

> "I enjoyed seeing the parents become so interested in the things that would help them make school more effective for their children."
>
> "Giving the parents a chance for education along with their children and opportunity to be more involved in their children's affairs."

The next most frequently cited area of program success was the awakening of the parents' desire to learn. The adult students were seen as becoming aware of the importance of schooling and realizing that education was essential. The teachers also made relatively frequent mention of the fact that the program increased the community awareness and involvement of the parents.

Those teachers who had a number of non-English-speaking students also were impressed with the extent of the improvement which the parents made in learning English as a second

Table 9

Teachers' Free Responses:

Most Effective Aspects

Aspect	Frequency of Response*
Parental cooperation in children's education	48
Awakening parents' desire to learn	17
Parents' improvement in the English language	15
Increase in parents' community awareness and cooperation	13
Parental increase in self-confidence	12
Variety and quality of materials of instruction	9
Scope and Sequence Guide	8
Other aspects	7

*N = 86

language. Some teachers, however, tempered this response by the observation that the time was short for adequate teaching.

The open-end section of the questionnaire also asked teachers to describe the problems and difficulties they experienced in the program. The main types of answers are classified in table 10.

The principal problem cited by the teachers was the lack of complete cooperation between the Head Start Parents' Program and the Head Start Children's Program, resulting at times in ineffectual use of the family assistant and giving rise to conflicts in scheduling and to overlapping of activities. A number of teachers also cited the difficulties of recruiting parents for the classes.

Table 10

Teachers' Free Responses:

Problems and Difficulties

Problem	Frequency of Response*
Insufficient cooperation with the Head Start Children's Program	32
Difficulties impeding parent attendance	28
Difficulties in recruitment	20
More materials of instruction needed	13
Poor physical facilities	10
Different levels of student ability	10
Too much testing	8
Other problems	6

*N = 86

The teachers reported being somewhat frustrated by uneven parent attendance, although in practically every case the teacher explained that it was realized that the absence was caused by the "realities of life" — parents had to be absent for many reasons including work, visits by the housing inspector, or the welfare investigator. Allied to this problem was the fact that the parents had to bring children to class, since baby-sitting was usually voluntary.

A dichotomy existed concerning instructional materials. Some teachers rated the materials of instruction provided as effective (see table 9), while another group felt the need for more materials such as consumable workbooks and audiovisual aids (see table 10).

When the teachers were asked to summarize their accomplishments, the responses took the form reported in table 11. The teachers generally reported their own accomplishments in harmony with the descriptions of the most effective aspects of the parents' program as a whole. They most often stated that they felt their greatest contribution has been to increase the parents' motivation for learning. They reported that they felt the parents came to know what education means and to have a more favorable attitude toward schools and teachers. Teachers reported that parents had made plans to continue to attend classes.

Table 11

Teacher Free Responses

Accomplishments

Accomplishments	Frequency of Response*
Motivated parents for further education	37
Increased parents' academic learnings	24
Increased parental involvement in child's education	15
Improved parents' sense of self-worth	10
Involved parents in community affairs	8
Other accomplishments	5

*N = 86

The teachers also felt that they had made noteworthy progress in helping the parents to learn, especially in teaching English as a second language. The teaching of consumer education also merited particular mention. A significant number of teachers also cited as accomplishments the increased involvement of the parents in the education of their children and the parents' apparent enhanced sense of self-worth.

Table 12

Teachers' Recommendations Concerning Continuation of Program

Response	N	%
Expand considerably	49	57.0
Continue essentially unchanged	6	7.0
Continue with modifications	31	36.0
Discontinue	0	0.0
TOTAL	86	100.0

The last item on the teachers questionnaire asked for recommendations concerning the continuation of the Head Start Parents' Program the following year. The results are shown in table 12. It is clear that the teachers were unanimously in favor of continuation of the program. The modifications desired are reported in tables 9 and 10 and are recommendations aimed at the improvement of a program which the responding teachers strongly supported.

A number of teachers in completing the free response section volunteered expressions of personal satisfaction. The following quotations are typical of this voluntary sentiment.

> "I have never enjoyed teaching as much as I have this summer. It was a pleasure and privilege. The parents were enthusiastic and wish to continue their education."
>
> "I have enjoyed my summer very much. It has been an exciting, stimulating seven weeks. I am sorry that I have to leave all those wonderful people! They were really interested in learning."

Observations

The general purpose of the observations of the evaluation committee and their interviews with teachers and parents was to ascertain the extent and effectiveness of the implementation of the planned program. Sixteen (or 17.8 per cent) of the ninety classes in the program were visited. Since the teacher in one of the visited classes took the class on a field trip, the analysis of the data was based on only fifteen classes. Four-fifths of the observed classes were located in public schools, and one-fifth in parochial schools. One-fourth of the sample were located in the Bronx, one-fifth in Brooklyn, and one-tenth in Manhattan. The mean time that the evaluation committee spent observing in each class was forty-three minutes. Although the percentage of attendance of enrolled students varied widely among the classes, the average percentage attending the visited classes was only 39.1.

The activities observed in the basic education and the non-English-speaking classes were all clearly related to the general framework of the scope and sequence units of the Head Start Parents' curricula. The general success of the activities observed in achieving the objectives of the program was adjudged to be very effective in one (or 6.7 percent) of the observed classes, above average in effectiveness for four (or 26.7 percent), of average effectiveness for five (or 33.3 percent), and somewhat below average in effectiveness for five (or 33.3 percent).

The consultants' ratings of the effectiveness of instruction are presented in table 13. In the view of the evaluation committee the teachers' methods emphasized individualization of instruction to at least a moderate degree in a majority of the observed classes. The teachers' methods, however, did not stress differentiation of instruction to a high or moderate degree. Nevertheless, the effectiveness of instruction was rated as at least fair for most of the sample. The minimal differentiation of instruction was probably the result of the wide range of the adult students' abilities within the single class, making individualization difficult. Other contributing factors may have been the newness of the program to the teachers and the lack of the teachers' familiarity with the instructional materials.

Interviews

As a phase of the consultants' visits and observations, the teachers were interviewed in a further attempt to gauge the effectiveness of

Table 13

Consultants' Ratings of Effectiveness of Instruction

Activity	Rating					
	High Degree		Some Extent		Very Little	
	N	%	N	%	N	%
Individualization of instruction	4	26.7	7	46.7	4	26.7
Differentiation of instruction	3	20.0	3	20.0	9	60.0
General effectiveness of instruction	5	33.3	7	46.7	3	20.0

the program. In the interview situation teachers considered the main strengths of the program to be: (1) the eagerness and motivation of the parents to learn; (2) the opportunity for Puerto Ricans and other Spanish-speaking parents to learn to speak English; (3) the interaction among parents; (4) the opportunity to assist parents in becoming more understanding of their children; (5) the cooperation of personnel in the program; (6) the flexibility given to the teacher in the conduct of the lessons; (7) the use of the social living units in the program; (8) excellent materials to conduct the lessons; and (9) the assistance provided by the guidance counselors.

The principal suggestions made by the teachers for improvement of the program were: (1) a greater stress on child development units; (2) an increase in the number of hours of instruction in the program; (3) better advertising of the program to the community; (4) earlier organization of classes so that prior to the commencement of the program teachers could establish rapport with the parents who probably would attend the classes; (5) more teacher orientation sessions concerning the program; (6) greater coordination by authorities from the Head Start Children's and Head Start Parents' Programs; (7) the provision for full-time baby-sitters; (8) the provision for interpreters for at least some of the lessons since students spoke varied languages in class; (9) the provision of student aides to help teachers with clerical duties; (10) the elimination of tests since parents become anxious when taking them; and (11) the need for more involvement of guidance personnel with the program.

The consultants' ratings of the efficacy of the guidance part of the parents' program are presented in table 14. The guidance program was considered successful in the majority of the classes observed. The group phase was generally judged more adequate than the individual phase of the program.

However, the effectiveness of the separate activities within the individual phase of the guidance program varied markedly. Individual

Table 14

Consultants' Ratings of the Effectiveness of the Guidance Program

	Excellent		Good		Fair		Ineffective		Very Ineffective		No provision	
	N	%	N	%	N	%	N	%	N	%	N	%
Individual guidance												
Individual pupil counseling	4	26.7	5	33.3	1	6.7	1	6 7	0	0.0	4	26.7
Pupil guidance												
Pupil guidance records	1	0.0	0	0.0	0	0.0	0	0.0	5	33.3	10	66.7
Attendance referral procedures	0	0.0	0	0.0	1	6.7	1	6.7	3	20.0	10	66.7
Liaison with outside agencies	3	20.0	2	13.3	0	0.0	0	0.0	0	0.0	10	66.7
Group Guidance	5	33.3	3	20.0	0	0.0	2	13.3	0	0.0	5	33.3
Guidance program as a whole	0	0.0	4	26.7	3	20.0	4	26.7	1	6.7	3	20.0

counseling of the adult students was more effective in the majority of the observed classes than the maintenance of guidance records, attendance referral procedures, or liaison with outside agencies. These deficiencies seemed to be due to the lack of guidance counselors' time to provide all the individual and group guidance activities required. It should be noted that in some classes, no provision for guidance activities was made during the first weeks of the program. In some classes observed teachers maintained biographical records about students in which were recorded students' needs, goals, aspirations, and accomplishments.

The consultants also interviewed a sample of students. Most of the students in the observed classes were satisfied with the Head Start Parents' Program. The students in four (or 26.7 per cent) of the observed classes were well satisfied and in nine (or 60.0 per cent) of the classes were satisfied, while in only two (or 13.3 per cent) of the classes did the students exhibit a neutral acceptance of the total program. Many of the parents who were interviewed stated that they were highly interested in units on consumer living and budgeting and that they liked to work in committees.

In summary, on the basis of the observations and interviews the class activities were clearly related to the planned curriculum and were achieving the objectives of the program. Instruction was judged effective in a majority of the classes visited by the evaluation committee. Although the teachers' methods emphasized individualization of instruction to some extent, they stressed the differentiation of instruction very little. The main strengths of the program as expressed by the teachers were the opportunities provided and favorable reactions of the parents to the program and the ample availability of high-quality materials to conduct the classes. The principal suggestions made by the teachers for improvement of the program were the need for better advertisement of the program, greater stress on child development units, an educational use of test results, and greater coordination between personnel from Head Start Children's and Head Start Parents' Programs.

Summary

The results obtained by means of the several instruments used in the evaluation of the Head Start Parents' Program all point to a substantial success. The gains in reading and arithmetic as measured by the ABLE ranged from 1.2 to 1.4 years of grade equivalent score during the period of instruction, estimated as the equivalent of two school months.

In the area of personal and social adjustment the Head Start parents evinced attitudes generally favorable to the program and reported a distinct need for it. These findings were obtained on both the English and Spanish questionnaires. The teachers' evaluations of the adjustment of the children revealed more favorable ratings for the pupils whose parents attended the parents' program than for the pupils whose parents did not. The children were rated on getting along with others, conforming to classroom procedures, and making a significant change for the better.

The teachers rated key aspects of the program. A preponderant number of the ratings were either excellent or good, with very few poor or very poor. The main exception to this trend was the rating of physical facilities. In the free response section of the questionnaire the teachers considered the most effective aspects of the program to be the growth of parental cooperation in their children's education and the awakening of the parents' desire to learn. They viewed their main accomplishment as teachers to be the motivating of the parents' academic learnings. The main problems were seen to be insufficient cooperation with the Head Start Children's Program and the difficulties impeding the attendance of the parents. The great majority of the teachers (ninety-three per cent) wished to see the program either considerably expanded or continued with modification.

The observations and interviews of the evaluation committee tended to corroborate the teachers' responses on the questionnaire. Specific suggestions of value in the planning of future programs were made in the areas of organization, methods of instruction, and guidance procedures.

SUGGESTIONS FOR FUTURE PROGRAMS

During the seven weeks of the Head Start Parents' Program in New York City specific changes were indicated for the improvement of certain aspects of the program:

1. In spite of the intensive plans for the recruiting of parents before the program, in most areas the first week (fifteen hours) of the program were spent in recruiting and setting up of classes rather than in actual teaching. It is suggested that an intensive recruitment program take place

before the start of any such short-term concentrated program.

2. Testing of students in this short program may affect student morale. Some students react poorly to initial testing, no matter how tactfully they are introduced to the test situation. It is suggested that the success of the program be measured in terms of a change in attitudes as well as of achievement growth.
3. There was some measure of overlapping and conflict between the Head Start Children's Program and the Head Start Parents' Project. It is suggested that there be more coordinated planning by the heads of the programs or that both programs be placed under one director.
4. The need for baby-sitters for the younger children of the parents who wish to attend classes was very evident. It is suggested that child-care facilities be provided.
5. There was need in the program for teacher assistants to help in clerical work, distribution of materials, working with individuals under the teachers' guidance, and coffee-making. It is suggested that these positions be filled by high school students or by capable parents in the community.
6. There was also a strong demand for the extension of this program by the parents of prekindergarten children, to take place in the evenings during the regular academic year. There was also a need indicated for evening parent education classes during the summer.
7. It is suggested that a provision be made for preservice, as well as several in-service training sessions for teachers. This would allow for more adequate training in the use of materials, in diagnostic procedures, and in appropriate methodology on a continuing basis.

APPLICABILITY

The lessons learned by New York educators in developing and implementing the Head Start Parents' Program may be useful to school personnel throughout the country. Briefly summarized these lessons are:

1. In planning such a program, it is necessary to involve representatives of potential participants in the planning stages. The community groups then can be asked to work as recruiters for a program which they helped to design.
2. Professional educators both in the early childhood and in the adult areas need to be aware of what the other program is trying to do. Misconceptions lead to occasional duplication of effort and, worse, acrimony between professionals on priorities and protocol.
3. Lead time for planning and book purchase should be sufficient so that all supplies have arrived before the program begins.
4. Preservice and in-service education for teachers, supervisors, and other professional personnel is vital. It might be useful to combine the training of the prekindergarten teachers and the teachers of adults for at least part of the sessions in order to prepare common goals.
5. Trips involving the children should include the parents and the teachers of the parents. In order to be even more effective, there should be joint preplanning of trips by the teachers of both groups.
6. The teachers of both groups should be knowledgeable about the materials in use in the other program. Thus, parents could ask their children what they were doing and develop another area of commonality of interest.

Appendix A

TEACHER QUESTIONNAIRE

Section I

Please rate the selected aspects of the Head Start Parents' Program according to the following scale:

5	4	3	2	1
Excellent	Good	Adequate	Poor	Very Poor

1. *Orientation*

   (The content, timing, and general effectiveness of the orientation sessions.) __________

2. *Curriculum*

   (Please rate the next three items in terms of the prescribed curriculum of the Head Start Parents' Program. If you departed materially from the curriculum guide, please explain under the appropriate item in Section II of this questionnaire.)

   Scope (The content covered) __________

   Emphasis (The time allotted to the various content areas) __________

   Sequence (The order, interrelation and articulation of content) __________

3. *Effect on Head Start Parents*

   Effectiveness of the program in changing the parents' attitudes to education in a favorable direction. __________

   Success of the program in increasing the involvement of the parents in the education of their children. __________

   Improvement in the parents' academic achievement. __________

4. *Supervision*

   (The guidance and assistance you received from the teacher-in-charge or other specialist or supervisor) __________

5. *Facilities*

   Housing (Space for class, facilities for guidance and other supporting activities) __________

   Maintenance (Custodial care, cleanliness, minor repairs) __________

   Materials of Instruction (Textbooks, visual aids, etc.) __________

   Supplies (Paper, pencils, chalk, erasers, etc.) __________

6. What do you consider to be the most effective aspects of the Head Start Parents' Program as a whole?

7. Briefly describe the problems and difficulties that you experienced. (Include suggestions for improvement.)

8. State briefly your feelings about what you have accomplished with the Head Start parents in your charge this summer.

9. Concerning the Head Start Parents' Program for the next summer, indicate your recommendations below. The program should be . . .

   . . .considerably expanded __________

   . . .continued essentially unchanged __________

   . . .continued with modifications __________

   . . .discontinued __________

NOTES

The Head Start Parents' Adult Basic Education Project, which operated in New York City in July and August of 1967, was funded under Section 309 of PL 89-750, the Adult Education Act of 1966.

1. Findings were excerpted from *Final Report: Head Start Parents' Adult Basic Education Project* (New York: New York State Education Department, 1968).

ADULT BASIC EDUCATION NEEDS: A CASE STUDY

William H. Robinson

This paper deals with a case study of one large Midwestern city as a basis for consideration of the needs which adult basic education programs must meet. The nature of poverty, the social problems of the poor, the nature of slums, and the types of job training programs and principles under which they operate all affect the educational needs of the poor. By implication these factors define the types of educational programs that need to be developed and the goals that these programs should have. The writer was until recently the director of a large department of public aid. That department was responsible for a program that included over 300,000 persons in well over a 100,000 families and expended over $22,000,000 a month on assisting these families. In 1968 the total caseload was analyzed carefully with regard to those who, at least superficially, seemed available for training. At that particular time there were 293,812 persons receiving assistance. Of this number 18,489 persons were receiving assistance to the aged; 1,010 persons were receiving assistance to the blind; and 21,296 persons were medically determined to be permanently and totally disabled. None of these persons properly can be considered as trainable for placement in productive employment. In addition, there were 168,312 children receiving aid to families with dependent children (ADC); and an additional 20,036 children under eighteen years of age receiving general assistance. This yields a total of 229,143 persons who were aged, blind, disabled, or too young to be employable. Some 7,500 adults receiving general assistance were classified as unemployable due to physical or medical handicaps, and when these were accounted for, the number considered not available for employment increased to 236,643. Thus, only between 55,000 and 60,000 persons out of the total caseload were conceivably available for training and employment. When the mothers with severe disabilities, those in training, and those working but not earning enough to support their families were eliminated, approximately four percent of the caseload might be trained and employed.

Ninety-six per cent of the recipient population are not permanently locked into their position of dependency, of course; but only a massive expansion of education programs; of specialized training programs that recognize the limitations of these recipients, of day care facilities — which must be included in planning for adult basic education, by the way — and a greatly increased program of medical and psychological assistance will allow parts of that ninety-six per cent to avail themselves of education and training for a productive role in society. The logic of these figures must be reversed.

One question is: What realities of poverty must adult education programs recognize if they are to be applicable to the poor? In a relatively small geographic area of the city being studied are concentrated almost fifty percent of the city's population and almost ninety per cent of its nonwhite population; over sixty per cent of all poor families; eighty-five per cent of all substandard housing; forty-eight per cent of adults with less than an eighth grade education; and sixty-seven per cent of all male juvenile delinquents. Here too are concentrated almost ninety per cent of all those receiving public assistance.

Poverty is not merely the absence of money. That concept arises from the belief in American society that if money is lacking, work and determination will provide it and that in an affluent society no one need starve. But it must be remembered that poverty is not merely a question of food or of money or of determination. Poverty deprives the individual not only of material comforts but also of human dignity and fulfillment. The causes of poverty are much more complex than the lack of money, and its cure requires more than a mere check or the creation of one or two programs of training or retraining. It should be realized that, because of the growing complexity of modern society, the disadvantaged, in particular, more and more lose the very ability to make choices — particularly in a society which allows racial prejudice. It is difficult to know what must be done and to take the appropriate action. In short, poverty is an interlocking set of circumstances caused by, and in turn reinforcing, each other. These circumstances combine to keep the individual without money, without help, without work, and without the education needed for this modern society. It truly can be said that the people who are poor are those who can least afford it.

Today, if a person is poor, there is a fair chance — one in five — that he is Negro, or Puerto Rican, or Mexican, or Indian. There is a better chance — one in four — that he is in a home where there is no father. The average income in such cases is one-third the average for intact families. If he is poor, his chances are two out of three of being relatively uneducated. If he is a child and lives in a large urban center, the chances are that he lives in housing that is seriously crowded, dilapidated, or lacks central heat, electricity, or plumbing. He lives in a slum. This inadequacy means, for example, that there is little opportunity for study or even for parental control. Crowded housing means early and unpleasant acquaintance with sexual facts; it means tension; it means weariness; and it means that the poor frequently live in a state of despair. Despair in itself becomes a barrier to improving circumstances. Poverty under such conditions is not merely an episode when money is less plentiful; it is all too often a hopeless way of life.

All of the programs developed to help the poor must reflect these realities of the slum. In the final analysis, adult education frequently deals with the hopeless hard-core of the hard-core. Although the slum itself exerts an influence, individuals react differently to this pressure. If programs are to succeed in education and in training, they must be developed on an individual and case-by-case basis. Adult education is faced with ever-changing problems for an ever-changing group of people in an ever-changing economy. In such situations, past successes, programs, and approaches do not necessarily meet the needs of the present. There is a need for continual creativity, variance, and adjustment of programs to meet current realities. Recipients must continuously be aided and motivated; for what response can be expected from those who have had no involvement or sense of fulfillment from past education, work experience, or training?

However, to change and demand change is often to be accused of mollycoddling the poor. All too often educators retreat in the face of these accusations instead of taking the stand that they are being realistic in endeavors to place people into meaningful jobs, in methods of education, and in what they think education can attain. What is being done and should be done is to develop education and training programs that consider the abilities of the recipients and the educational, economic, social, and psychological background and disadvantages under which they live.

This fear of mollycoddling is part of an obsolete tradition, of a heritage of the land of opportunity and open land to the west. The fact that it is a part of our heritage does not mean that it represents the society of today. The West is no more; at the turn of the century the West was settled. During this modern century the admonishment, "Go West, Young Man," has unfortunately become, "Get out and go to the big city, Young Man, along with your inadequate education and your inadequate training."

Let us contrast the lift-yourself-up-by-your-own-bootstraps immigrant at the turn of the century with the adult today who is in need of education. The immigrant to this land of opportunity was probably from Europe, was white, and arrived either alone or with his wife. If he was married and had children, he frequently left his wife and children behind. In short, he could take a low-paying job, could attend night school, could slowly accumulate the money for passage for others if needed, and, most significant and important, during that period work himself up in his knowledge of the language and in his job so that when the family arrived he would have social knowledge and a salary upon which he could depend in supporting them. Certainly he had no bed of roses, but on the whole the low-paying job was considered a temporary necessity and not a permanent role. The immigrant could build on an intact self-view. He had hope; he had and retained self-respect.

What is the nature of the public aid recipient of today? Most mothers in the ADC program have from three to four young children. Fathers in the aid to families with dependent children of unemployed parents program (ADCU) have a wife and from four to five young children. These fathers and mothers cannot make do with the same education given the immigrant decades ago, nor can they make do with menial jobs at $1.35 or $1.50 an hour which are inadequate to support a family even without dignity and pride.

Let us face the reality of poverty in yet more detail. Whatever the causes, the fact exists that there has been a breakdown in family life among many of the poor today. In the case of the deserted mother, the defeating fact of desertion is compounded by concern for the proper care of her children. Old educational methods and menial jobs will not notivate her. Families can be brought back together; but this will not be accomplished by offering the father the same hopeless future that may have driven him from the home originally. Society is not asking a single man, a recent immigrant with minimal needs, to accept a low-paying job, but is asking a man, with a man's need for dignity, to accept a job permanently (or until it disappears) that will not support his family.

Today society asks the poor to build upon hope where there is no hope. The question is one of status and of self-view. For example, in the area of jobs, there is the question of training for a possible career ladder, or at least for a status job. Many years ago men were employed in low-paying jobs as "garbage collectors;" today men are employed in high-paying jobs as "sanitation workers."

This writer defines a menial job as one that does not pay enough for a man or woman to support his or her family in dignity. A status job can be defined quite simply as a job that pays enough for a man to meet his responsibilities as a man, as a husband, and as a father; or for a woman to meet her responsibilities as a woman and as a mother. This definition of a status job also defined the goals of adult education.

Adult education must face the additional fact of the revolution going on in at least one segment of the undereducated, the black society of America. After hundreds of years of slavery and discrimination, they will no longer accept the same old education, the same exclusively low-paying jobs. It is quite obvious that they are actively searching for economic and social dignity. Programs will get nowhere that ignore this need and striving for dignity.

It seems quite obvious that programs must be structured so that where there must be immediate dependency, there will be ways of providing assistance without humiliation. Everyone in our modern society is dependent upon that society for self-development, and it is time that this fact be recognized. It is the duty of society to create agencies of dependency in order to guarantee that all have the means of developing themselves to the fullest extent. Dependency in the sense of needing help for self-development is not dependency in the pejorative sense.

It has been said that our high schools and even our colleges have become places to keep delinquents off the streets. Let us not convert adult basic education into a similar institution. In the last five years the adult basic education classroom has been seen primarily as an agent for economic mobility. Of course, one goal is economic and there have been economic rewards; but its most important goal should be to give to each citizen the educational means for living the full life. Education today is basic, indispensable to independence. The new hope today for both black and white must be the determination by society that all people receive whatever education they need for as long as they need it to enable them to rise from dependency, to increase job performance where appropriate, and to be the mentor of the children. The education of the children to a great degree depends upon the educational environment of the home, and adult education helps to set that educational environment.

In the large city being considered in this paper it has been found that over eighty per cent of those in need of public financial assistance have not completed high school. In one survey of almost 144,000 unemployed men and women it was found that sixty-eight per cent of the unemployed in Illinois had not finished high school and that seventeen per cent had not even finished the eighth grade. An even graver aspect is the number of persons twenty-five and over who are functionally illiterate. The census reports that in 1960, 8.9 per cent of the population of this city, or over 200,000 persons, were functionally illiterate.

Brooks studied a group of welfare recipients who were selected for intensive examination in the area of social and educational background and the level of formal education attained.[1] They were tested for actual functioning level. This study revealed that while only 6.6 per cent of the group lacked five years of education, 50.7 per cent were functioning at levels below the sixth grade — the level at which it was generally considered that the individual possessed the minimal literacy skills to function in modern society. This study was replicated with the same results in another city.[2] It should be pointed out that the definition of sixth grade functioning level, developed many years ago, is grossly out of date for the complexities of our day and the future. One more realistically could define the level for adequate functioning as at least high-school graduate level.

The Brooks study showed that among the public aid recipients who reported a certain grade as their highest educational level, the average achievement never equaled that grade. Those who reported the eighth grade as their highest grade averaged less than the fifth grade; those who reported graduation from high school, actually were functioning on less than the seventh grade level. One hundred per cent functional literacy appeared only in members of the group who reported one or more years of college as their highest education.

Some fundamental questions have been raised about these two studies, the most simple of which is the validity of the literacy tests used. This question merely highlights the need for greater work in the whole field of adult education. How does one realistically test an adult, out of school and out of work for years, and out of hope for even longer years?

What are the returns on education and training for the poor? A few years ago in this city a listing of more than 1,500 recipient graduates of special training programs were checked through public aid department records. Over seventy-five per cent of the cases were closed. A little over seven per cent of the cases were receiving supplemental assistance, that is, they were working but not earning enough to support their families. In but 16.3 per cent of the cases were the individuals still receiving full assistance.

In a more recent study all of the graduates during an eighteen-month period of two daytime adult education centers were followed-up. Of the 477 graduates, 245, or 51.4 per cent, were no longer receiving assistance. While there have been few full-scale studies of the impact of ABE, it seems certain that there is not only an economic impact, but also a social and educational impact upon the children and the whole family unit.

This writer would urge not only a massive attack upon illiteracy, but further, a recognition of the need for a general upgrading of educational levels and a broadening of educational backgrounds. The demands of this modern society require not only a high school or a junior college education for all who are both to participate and partake of the fruits of society, and to pass this knowledge on to the young. Our modern economy requires a breadth of training and general education that will permit the average individual to adjust to more than one position or job during his lifetime. Adult education can no longer afford to train and educate narrowly, for all too often the narrowly trained and educated find themselves prepared for a job which ends and for parental duties no longer understood.

In the early phases of the industrial revolution it was relatively easy, for example, for a hand-set printer to convert himself into a linotype operator. The new skill levels required by the type of machines introduced at that time were relatively low. Today, however, the automation revolution is requiring a vertical shift in work that often must occur two or three times in a person's productive life, and which requires not just a variation on his old skills, but completely new skills. Extensive retraining programs alone are not the answer, for experience has already demonstrated that a man can be retrained in a job requiring a raising of his skill level by more than one step at a time. To raise him two or more steps in the ladder of skill leads, in the vast majority of cases, to failure. Today the individual must have a broader background so that he can adjust to new jobs, new requirements on the job, and new outlooks. In addition, to find positions for those who have dropped off the bottom of the skill and employment ladder, there must be a general upgrading of all presently employed so as to create entry level positions. Only the broadest of community programs developing education and training within the broadest meaning of those words can accomplish this goal. Society can no longer afford to wait until a person is without work and has lost faith in himself and his abilities.

In conclusion, undereducation is not the only cause of poverty, but if properly designed, adult education programs can meet many of the needs of the poor, including job training and a chance for an enhanced self-concept with a subsequent alleviation of the despair of poverty which defeats problem-solving. A consideration of the problems of the poor of one large city pointed to goals and types of educational programs needed. It was seen that adult education programs must take into account: (1) permanent physical and psychological handicaps; (2) long-term training for the ADC mother who will one day have no more children at home and will be ready for employment; (3) the effects of despair; (4) the effects of past poor schooling and failure in school; (5) the effects of racial prejudice on the self-concepts and life-style of the poor; (6) the interaction of rapidly changing societal demands with individuals who have high geographic mobility; (7) the fears and preconceptions of that part of middle-class America which believes that supportive and educational efforts are prolonging the dependency status of the poor; (8) deterioration in basic educational skills that are not used; (9) and the need for a wide attack on upgrading educational levels, putting adult basic education into the context of continuing education for all adults. It has been seen that there is some evidence of economic and social upgrading as the result of adult education and training for the poor.

NOTES

1. Cook County Department of Public Aid, *The Blackboard Curtain: A Study to determine the Literacy Level of Able-Bodied Persons Receiving Public Assistance* (Chicago: Science Research Associates, 1963).

2. Deton J. Brooks, Jr., *First They Must Read: A Study to Determine the Literacy Level of Able-Bodied Persons Receiving Public Assistance in East St. Louis, Illinois* (East St. Louis, Ill.: St. Clair County Department of Public Aid, 1964).

THE ADULT BASIC EDUCATION RESPONSE IN CHICAGO

Herbert Lehmann

Background of the Program

While a lack of basic literacy skills is not the sole reason for poverty, it is certainly one of the important ones in our time because of the complexity of our society. Abundant evidence is available to substantiate the link between a poor educational background and poverty.

Within the past decade a number of studies have been conducted of the literacy level of public aid recipients. For the purpose of this paper the most significant one is that done by Brooks in 1962 on 719 recipients of the Woodlawn community in Chicago.[1] He found that their literacy was considerably lower than that necessary to be considered employable for most available jobs. As a result of this and other relevant national studies, the late Raymond Hilliard, then director of the Cook County Department of Public Aid, arranged with the general superintendent of the Chicago Public Schools, Benjamin C. Wills, to arrange for evening classes for public aid recipients. These were begun in four evening schools in March, 1962. Referral slips were given by the Cook County Department of Public Aid caseworkers to their clients, who would present these at the school office to qualify for registration in classes.

The classes had been scheduled to begin within a few days after the agreement between the schools and the Cook County Department of Public Aid was concluded, and therefore a very heavy burden was placed on the schools to classify the students according to their school backgrounds, to arrange for placement of clients in classes, to hire additional teachers, and to obtain instructional materials. Much confusion prevailed for a few months while the program was getting under way, and it was often the target for unfavorable publicity by various critics. However, when it is considered that this was a pioneering effort with almost no advance planning and launched jointly by two public agencies with different missions, it is surprising that it worked as well as it did.

As soon as the program began there were several major problems which were immediately evident:

1. No school records came from the welfare agency. Hence, lengthy individual interviews often were necessary to try to ascertain a rough approximation for proper class assignment. The client's own recollection of his highest attained grade in school was all that could be used as a temporary class assignment until more accurate screening could be accomplished by the class teacher.
2. Since the Chicago Board of Education was financing the program out of its own budget, no additional staff had been provided for interviewing and counseling, so adequate placement was frequently delayed for several weeks. This delay resulted in many dropouts among those clients whose previous school experiences had been uncomfortable at best.
3. Attendance reports were required by the Cook County Department of Public Aid from the school, but little follow-up of frequent absences was done by either agency because of a lack of organization at the time of the launching of the program.
4. Because the Chicago public schools had never supplied textbooks to adults in the evening schools, no funds were available for any instructional materials. Furthermore, even if funds had been available, in these early days of the program few suitable materials were being published at the level of adult basic education and most of the students had to be placed at this level because of their low literacy level. Also, very few teachers had ever had any experience in teaching adult students whose literacy skills were so low.

Such problems forced each school staff to improvise as best it could. Old textbooks were borrowed from neighboring elementary schools. Science, social studies, and health textbooks were used when they could be obtained. Many teachers prepared their own instructional materials. Reading textbooks were also employed. It was especially in the category of reading that few instructional materials for adults were available for teaching total or almost total illiterates. Hence, unfortunately, on some occasions juvenile primers were employed. These primers, probably justifiably, were the chief target of the early critics of the program, furnishing the impetus for several censorious judgments of the program at this stage.

Despite the vicissitudes which characterized its initial phases, the program progressed very rapidly, and within less than two years the enrollment grew from less than one thousand students to approximately seven thousand. At the same time the finances of the Chicago Board of Education were being strained by greatly added enrollment in the regular day school program for children. Therefore, it could no longer carry the additional financial load for this adult program and aid was sought from the state legislature so that the adult program for public aid recipients could continue. Fortunately, this monetary assistance was forthcoming as a result of the joint efforts of the Cook County Department of Public Aid and the Chicago Board of Education. In 1964 the Illinois legislature passed legislation which became codified in the State School Code. Provision is made under the legislation for the State Department of Public Welfare to reimburse the Office of the Superintendent of Public Instruction for classes conducted by school districts of the state for public aid recipients. In actual practice it has developed that the state superintendent's office reimburses districts to a level established as a result of the districts' preparing proposals of their annual needs. The state superintendent's office grants the amount it can in keeping with the funds voted by the state legislature for this type of educational program in the biennial state school budget. Recently this has resulted in approximately one and one-third million dollars annually for the cooperative program of the Chicago Board of Education with the Cook County Department of Public Aid.

Problems

Over the seven years of operation of the program a variety of problems have arisen as might be expected in a joint social venture conducted by two public agencies with different objectives, receiving financing through a third public agency. Some of the problems are listed below:

1. Because the program is completely reimbursed to the Chicago Board of Education, agreement is necessary between the Chicago Board of Education and the Cook County Department of Public Aid concerning lists of recipients attending. With sophisticated data processing equipment in both agencies it might be expected that such agreement would be a simple matter. Actually, because of changes in personnel assignment in both agencies and some differences of policy about long-absent students, attaining the necessary agreement between the two agenciencies has proved to be a difficult task. At one time there were several hundred clients in question as to whether or not they were still to be considered in active class status. This problem is no longer troublesome, but the delays inherent in concurrence of both agencies in regard to the lists is still a minor annoyance.
2. While there has always been complete agreement between top level personnel of both agencies, there has been considerably less insight on the part of the operating personnel of both agencies with respect to the roles of their counterparts in the other agency, i.e., teachers, principals, and welfare agency district supervisors.
3. Probably because of the different educational background of the professional employees of the two agencies, frequent disagreements arise regarding whether or not certain of the poorly-attending clients should be retained in the class.
4. A lack of experience on the part of the teachers, counselors, and school administrators in dealing with the poorly motivated adult student with little or no formal education is also a persistent problem.

Joint Advisory Committee

After several years of operation it became evident to the top echelon personnel in both agencies who were charged with operating the welfare adult basic education program that there was a need for a joint committee of operating personnel in both agencies. This committee would meet regularly to discuss interagency problems and to make recommendations to the respective agencies which might improve the educational services to the adult population which both serve. The committee was established in late 1966 and has met monthly since then. Its active members representing the Chicago Board of Education are a principal, a counselor, a teacher, and the adult basic education curriculum consultant to the program, and representing the Cook County Department of Public Aid, a district caseworker supervisor, an educational caseworker, and a caseworker. Top echelon administrators and an Office of the Superintendent of Public Instruction regional adult education superisor are ad hoc members. Among its contributions toward resolving problems inherent in the differing roles of the agency are:

1. Two joint workshop sessions in which welfare and education caseworkers visited operating adult basic education classes on site.
2. Two joint workshop sessions in which many adult basic education teachers and counselors participated in in-service discussion sessions with welfare and education caseworkers.
3. The resolution of conflicts concerning class lists and the proper determination of the status of students.
4. Help in improving attendance to some extent.
5. The development of standarized joint forms for more effective attendance reporting.
6. By the existence and deliberations the committee has given substance to the deep commitment which both agencies have to this program which aims to alleviate to some extent the city's poverty problem.

The Status of the Program in 1969

Today the program operates five full-time day centers with a total enrollment of approximately twelve hundred. These day centers are:

1. Raymond Hilliard Adult Education Center
2. Montrose Urban Opportunity Branch of the Raymond Hilliard Adult Education Center
3. Andrew Jackson Adult Education Center
4. George Westinghouse Family Education Center
5. James R. Doolittle, Jr., Family Education Center

All of these centers provice instruction from beginning reading to the eighth grade level and have child development programs for the children of mothers in attendance.

In addition the program conducts twelve evening schools for a few hours each week. Approximately three thousand public aid recipients, of whom thirty-five percent are high school students, are enrolled in these part-time programs.

Enrollment appears to be down by several thousand from its peak several years ago. This drop is more statistical than real, since the two agencies are now in considerable agreement in regard to dropping students who have had long or poorly-explained absences. However, there may be fewer students now than formerly. At least a total of thirty thousand adults have been enrolled at some time during the seven years of operation of this program, so that those who are still potential candidates for adult basic education are fewer because in-migration into the city has declined considerably in the past few years. Also, since only the day centers offer child care facilities, attendance of many mothers in evening school is impossible. Location of adult basic education centers in the innercity also discourages many persons from evening attendance because of the dangers of the street at night. Day attencance, however, is on the increase.

It is difficult to assess objectively the effectiveness of the program over the seven years of its operation. Few students who began the original program finished and received an elementary school diploma. Even fewer finished high school. Only 1295 elementary certificates and 873 high school diplomas have been awarded. An additional 2876 persons on public aid were able to be placed on jobs since 1965 because their literacy level had increased. Of these sixty-three percent were successful.

There is no real measure to determine the effectiveness of the program for the large group which did not remain to graduate, but hopefully many persons, especially those who are parents, now are more concerned that their children achieve in school, and do not drop out, or become force-outs because of poor attendance or other difficulties. Hopefully, many mothers are more effective homemakers as a result of the consumer economics phases of the course. Class trips to many places in the city should have broadened horizons, and class discussions sharpened knowledge of civic and social problems for many, even if they attended for only a few months. Any real effect of these less-directly-measurable benefits must come some years from now in an improved quality of family and community life.

The Curriculum

As was previously stated, when the Chicago welfare adult basic education program began, no organized approach to teaching was available. This condition persisted for the first year while teachers tried their best to meet the needs of their students. Probably there were almost as many approaches as there were teachers at that time. Instructional materials were equally diverse.

In 1963-64 a number of publishers discovered the ABE market and considerable material began to become available. At first every Chicago school conducting adult basic education classes bought materials independently, sometimes from that sales representative who arrived first. During this period the program received frequent criticism from many directions, some of which was justified, some of which was not. It was evident, however, that a real need existed for developing a curriculum guide to help inexperienced adult basic education teachers to deal more effectively with their students. Therefore, late in 1963 a curriculum committee was appointed to prepare such a guide, and the first field-test copy of the *Language Arts and Social Studies Guide* was issued in 1965. A curriculum consultant in adult basic education also joined the staff in 1965. Since that time a number of revisions have been made in this guide. Guides for the areas of mathematics, science, and English as a second language (ESL) since have been issued.

Instructional materials selections committees composed of experienced ABE teachers and administrators worked throughout the summers of 1965 and 1966 compiling lists of suitable materials. These now constitute the official instructional materials list. As funds become available, it is planned to have an instructional materials selection committee update the list.

Unsolved Problems

While much progress has been made, at least two serious and probably inseparable problems exist. One problem is poor attendance together with a high dropout rate; the other is a need for in-service education of the entire adult basic education staff. It is certain that these problems are related, because a poorly prepared teaching and counseling staff surely exacerbates the attendance problem. Some headway has been made in upgrading the full-time professional staff. Approximately fifteen persons have attended two-and three-week summer teacher, counselor, and administrator workshops funded under the Adult Education Act of 1966. Chicago presently employs, however, a total of eighty full-time ABE professionals in the five day centers, and one hundred and twenty part-time evening school teachers in the welfare program. In addition about six hundred more part-time teachers of adult basic education and twelve hundred part-time high school teachers are employed in adult education program of the Chicago public schools. Only a very few of the latter have had in-service education in the teaching of adults.

While it is doubtful that adult education programs will ever achieve the high attendance levels characteristic of many day elementary and high schools because of family, health, job, and other pressures, the writer is certain that professional courses in all aspects of adult education reinforced by periodic in-service education can improve attendance and lessen dropouts at all levels of adult education.

NOTES

1. Cook County Department of Public Aid, *The Blackboard Curtain: A Study to Determine the Literacy Level of Able-Bodied Persons Receiving Public Assistance* (Chicago: Science Research Associates, 1963).

Culture or Social Stratification

THE CULTURE OF POVERTY

William Haddad

There is culture of poverty. This culture of poverty, a subculture within the American economic system, has taken various forms during the development of this nation. Today's culture of poverty is divided between urban and rural, Indian, white, black, and Spanish-surname. It includes enclaves in the hills of West Virginia and on the tenant farms of Mississippi, the rice fields of Louisiana and the streets of East St. Louis.

There is both quantitative and qualitative evidence that a culture — or more precisely, subcultures — of poverty do exist. First, let us consider the characteristics of poverty. The first characteristic is the lack of money. What constitutes poverty varies from place to place, but an arbitrary national norm of the War on Poverty was set at $3,120 per family of four. The second characteristic of poverty is the direct correlation with the lack of formal education. The third is the length of time a family has spent in the subculture. It is not a cliche to report that the children of poverty grow to become the fathers of poverty. The fourth characteristic involves the consequence of poverty, such as poor housing, inadequate medical attention, poor nutrition, and hunger. The fifth characteristic, or, more properly, a consequence of poverty, is the lack of opportunity to break out of the subculture.

The black poor, or at least a significant minority, are reacting to the failure of the federal, state, and city governments to meet their needs by developing a subculture of separation which ranges from community control to institutional isolation to physical separation. The by-products of this subculture are counted in terms of frustration and violence. There is no doubt that the subculture of Indian life in America has produced its own norms, including alcoholism, which was not a product of the Indian culture itself. The pattern of leaving the reservation, attempting low-level work with no advancement, slipping into urban poverty, and then returning to the reservation was well documented in the Kefauver-Langer hearings of the mid-fifties. There is also no doubt that the Appalachian isolation of poverty has developed patterns and attitudes of its own toward mobility, education, and work. Each of the characteristics of the culture of poverty — family disorganization, alienation, mental disorder, illiteracy, mortality, crime and apoliticism — work on individuals at the same time, and there is some reason to believe that their cumulative effect may be multiplicative rather than additive.

Some of these characteristics are susceptible to direct measurement; others at this point are not. A study conducted for Congress by Schaefer examined the health of twelve thousand low-income residents of Texas and Louisiana, of whom fifty per cent were Mexican-Americans, thirty-five per cent were black, and fifteen per cent were white.[1] Of the children under six studied by Schaefer, one-third were anemic and below average height. Their growth rates also were below normal, and they exhibited retarded bone development. About eighteen per cent of the children over ten years old had severe dental problems, and many were starting to lose permanent teeth by the age of twelve.

There is some indication that prenatal protein insufficiency among the children of the culture of poverty may lead to a subnormal number of brain cells at birth. Although adequate statistical evidence may be lacking, there are strong indications that all federally-treated narcotics addicts were at the lowest economic level.

Although statistics regarding whites and nonwhites are not fully coterminous with differentiations between nonpoor and poor, there are indications that figures for nonwhites approximate those for members of the culture of poverty. In 1966, for example, the average illegitimacy rate per thousand women of child-bearing age was 23.4 in the United States. Among whites, it was 12.0 and among nonwhites 92.8. In the same year, the average of infant mortality in the United States was 23.7 per thousand live births. For all whites the fiture was 20.6, while for all nonwhites the figures was 38.8.

Those who see a culture of poverty in America believe there has been an evolution of a stratified society with diminishing mobility upward. This belief is clearly more susceptible to the vignette illustration than to statistical exigesis, even though one of the germinal volumes of the 1960's, Michael Harrington's *The Other America,* was in essence a passionate book about statistics.[2]

All Americans can be ranked somewhere on a variety of continuums, and their rankings show where they stand in relation to their fellows in such matters as income, intelligence, health, schooling, and housing. Some of these indices have been drawn with considerable sophistication. All Americans, too, can be ranked according to other criteria — family disorganization, alienation, mental disorder, illiteracy, infant mortality, crime, and apoliticism. Unfortunately, America has not yet developed measurement capabilities to limn family disorganization as well as, say, average per-share stock earnings over 20 years, adjusted to constant money. But because our measurement technology in social science is less sophisticated than that of Dow-Jones is not to say that the culture of poverty does not exist.

Another problem is that an operational definition of the culture of poverty or even of poverty never has been established. The Office of Economic Opportunity and the Bureau of the Census wrestled with this question of definition for several years and came up with what was an admittedly unsatisfactory solution — a definition in terms of dollar income on a national base, taking into account such things as average rents and food costs. Below a specific point — roughly $3,100 for a family of four, although the exact figure tended to get imprecise — citizens were adjudged to be poor and thus entitled to whatever beneficences the federal anti-poverty program had for them.

The dollar definition of poverty was clearly unsatisfactory, particularly considered on a national basis, since it produced anomalies such as the fact that all residents of Alaska, where bread costs a dollar a loaf, were technically ineligible for anti-poverty benefits, while the mayors of some middle-sized communities in the South were fully eligible. Congress, for reasons of its own, was unhappy with regionalizing the dollar definitions of poverty — particularly the high-seniority Southern delegation which had considerable flexibility in allocating anti-poverty benefits among its constituency. A higher percentage of residents of the South were eligible than was the case in other sections of the country.

A more serious deficiency than the mere assignment of a dollar figure to constitute the dividing point between poverty and nonpoverty is the question of who draws the dividing line, and on what basis. There are reasonably good measurement devices from which the relative degree of participation in the political process can be inferred. But it would be one thing to postulate a correlation between apoliticism and captivity in the culture of poverty and an entirely different matter to try to define the point at which the apoliticism becomes a symptom of the culture of poverty. If one has never voted, is he a member of the culture of poverty? The answer, of course, is not necessarily, but certainly it is more likely than if he had voted in all the primary, special, and general elections of the last ten years and also served as a district leader for his party. Other possible culture-of-poverty indicators such as high infant mortality rate also raise problems. Who is to draw a line on a graph and say that those above the line are not living in such a culture, while those below the line are?

The argument of the academic community has been that it is difficult to assemble a matrix of the characteristics of the culture of poverty and that it is even more difficult to draw a statistical line separating these members of this culture from nonmembers of the culture. Therefore, there is no culture of poverty. Academicians claim there can be no culture of poverty because there is a low correlation rate between the occupation of fathers and sons in the United States. However, a perfect correlation of occupation would come in situations in which the sons of sharecroppers became sharecroppers and the sons of cobblers became cobblers. Were this occupational correlation from generation to generation to occur, it might be possible to identify a culture of poverty with some exactness.

However, it is entirely possible, indeed likely, that sons of the culture of poverty can achieve some degree of lateral mobility without achieving any upward mobility whatsoever. The son of a sharecropper in Mississippi can achieve an occupational change, from a statistical point of view, by becoming a part-time short-order cook in Chicago. But the occupational change is extremely marginal to any determination that the individual has moved out of the culture of poverty. It may mean, instead, that the measurement tools presently available are too imprecise to draw any conclusions.

What of the future? On the one hand are the concensus historians, who point to the similarities between movements and the continuity between antecedents and actions throughout America's past. On the other are the conflict historians, who emphasize the degree of turmoil and the depth of disagreement surrounding the major decisions of American history. The concensus historians seem closely associated, in frame of reference and in time-frame of dominance, with the Eisenhower years, while the conflict historians have risen during — and been associated with — the Kennedy and Johnson administrations. These two interpretations of the past have a good deal to say about visions of the potential of the present and thus with the politics of the future.

In my view of the future, we live on the edge of the abyss. If it is true that at least some members of the culture of poverty see the social compact as simply not relevant to themselves, and if others respond to this anomie with similar disregard for the social compact, then the United States is indeed heading toward a collision course.

NOTES

1. Hearings before the Select Committee on Nutrition and Human Needs of the United States Senate Ninetieth Congress. Second Session, Part 3, The National Nutrition Survey, Washington, D.C., January 22, 1969. (Washington, D.C.: U.S. Government Printing Office, 1969).

2. Michael Harrington, *The Other America:* Poverty in the United States, (New York: Macmillan, 1962).

IMAGES OF THE POOR AND ADULT BASIC EDUCATION

Zahava D. Blum

The Issues

Paralleling the initiation, operation, and evaluation of poverty programs in the past few years, in which the academic community has not played a central role, has been the academic debate concerning poverty — its definition, its manifestations, and the causal nexus between individuals and specific behavior patterns. The study of the poor or of poverty cannot reasonably ignore the general position of the poor in the larger society. Yet, studies of poverty more often than not fail to relate either the concept of poverty or the empirical studies of the poor to the study of social stratification in general. The study of social stratification is concerned with the general principles underlying hierarchical orders; this concern leads to a characterization of the bottom strata as being different mainly in degree rather than in kind. In contrast, the studies of the poor per se have focused upon those characteristics which most clearly differentiate the poor from the rest of the society. The reasons for this are twofold: first, most of this research has been conducted by scholars who have tended to emphasize distinctive cultural traits as a way of defining the poor; second, studies of the poor usually have been motivated by ameliorative aims, thus reinforcing the search for differentiae.[1]

Put another way, a broad stratification approach to poverty leads to the conclusion that poverty is the result of the situation that individuals find themselves in. This approach suggests that people respond to the situations and opportunities available to them, and change their behavior accordingly. This leads, further, to the suggestion that the creation of work and income are the major policy measures to eliminate poverty. The assumption inherent in this approach is that the life-style of the poor will not interfere with their adaptation to economic opportunity.

The cultural view of social change suggests that work and income are necessary but not sufficient to eliminate poverty. It argues that poverty and the low-status position of the poor lead to a separate and independent lower class culture[2] or a "culture of poverty"[3] which intervenes in the response to opportunities, sometimes making it impossible for poor people to develop the behavior and value patterns needed, say, to hold a job. Oscar Lewis, who apparently coined the term, distinguished between "poverty *per se*" and poverty as "a culture, or more accurately, as a subculture with its own structure and rationale, as a way of life which is passed down from generation to generation along family lines."[4] He then describes the characteristic features of families and individuals living in a culture of poverty. However, even if we accepted Lewis' definition, the critical question becomes what weight should be given to each of the characteristics, that is, which are the most essential characteristics, the absence or presence of which should more definitely determine whether or not an individual or household is a member of the culture of poverty. Lewis himself has recognized the limits of this formulation. In a more recent work he has placed more emphasis on the heterogeneity within slum communities and wants us to see the culture of poverty as "a statistical profile" of the frequency distribution of these previously discussed traits. Although Lewis is now willing to acknowledge critics who feel that external pressures perpetuate poverty subcultures, he emphasizes that "this is not the only reason" since self-perpetuation also occurs through internal socialization.[5]

Conceptually, there are two difficulties with the cultural approach: first, its proponents often determine norms from frequency-of-behavior patterns; second, there is an emphasis on those cultural patterns which are resistant to change. Neither one of the approaches discussed above genuinely comes to grip with the question of what creates the poor or what the particular mechanisms are which account for the existence and persistence of poor people in the United States.[6]

To recapitulate, the major issue which arises from a consideration of these approaches is whether the poor are qualitatively or quantitatively different from strata higher in the system of social stratification. The solution to this problem has widespread implications both for conceptions of social stratification and for social policy. From a theoretical standpoint, solving the problem requires examining the relative merits of those theories of social stratification which conceive of social classes as subcultures and "status groups" as against those theories which stress a continuum model. From the standpoint of social policy, efforts to ameliorate the condition of the poor are affected by whether the poor prove to constitute a separate subculture or whether their characteristics are generated by large-scale social processes. While there is some consensus that changes in the character of lower-class groups as well as in the structural opportunities afforded them are desirable, differences in opinion are reflected in the ways in which the action programs are formulated, criticized, and praised.

This paper, then, summarizes the findings from an extensive literature review and provides a partial answer to the question raised above.[7] First, a composite picture of the poor will be presented with some modification as it emerges from the qualitative literature. Subsequently, the major findings from the more quantitative literature will be discussed. To anticipate the conclusion, it is evident that in almost every case the alleged characteristics of the poor are those they share with the working-class or blue-collar component of the labor force. A brief review will be presented of some of the major findings from the vast literature dealing with social mobility — a topic omitted from our more concentrated review — and, finally, special attention will be paid to studies dealing with the education of the poor.

Before proceeding, what is meant by the term "poor" should be clarified. In the current literature on this group and in policy discussions the definition of poverty is an unresolved problem. We all agree that those living in poverty are persons or households that have considerably less-than-average access to goods and services and considerable less-than-average financial and human resources. Contemporary discussions distinguish between those who, because of events in their life cycle (the aged, the sick, the disabled) or the chance happenings of disaster, happen to be suffering from a low level of income and the chronic poor, those who are unable to "make a go of it" because of character deficiencies or lack of skill. It is the latter group upon which the greatest attention is centered. When we look at terms used to describe the chronic poor in recent years — the new poor, multiproblem families — we note that the terms imply that something more than income is missing in this group.

These labels suggest that these are people who are poor and who cannot cope with their poverty despite their lack of any obvious physical and mental disabilities. By extrapolation, as suggested earlier, simply augmenting their income is not enough. For the sake of this discussion, the poor will be defined as those who are at the bottom of our American class system. The poor are those able-bodied adults and their dependent children whose lack of income and wealth places them at the bottom most layer of most distributions and whose sources of income lie in either welfare payments or in unskilled and poorly paid occupations. These are the "problem" poor, those who should be "making it" in our society and who are either failing to do so or are the products of the failures of our society. This definition excludes those who are retired from the labor force and those who are disabled through disease or infirmity, even though their income may place them at the lowest portions of the income distribution. They are excluded because their problems could be solved by income maintenance through transfer payments of some kind. Obviously this is not a definition that would be useful if one were to try to determine the number of poor people in the United States. For present purposes of reviewing a literature that does not employ standardized definitions, a flexible definition permits a wider range of materials.

A Qualitative Portrait and Some Quantitative Findings

If we look at the case studies and field observations dealing with the "lower-lowers", to use Warner's neutral term, we find considerable agreement on specific characteristics that are manifested by this group:[8]

1. *Labor-force participation.* Long periods of unemployment and/or intermittent employment. Public assistance is frequently a major source of income for extended periods.
2. *Occupational participation.* When employed, persons hold jobs at the lowest levels of skills; for example, domestic service, unskilled labor, menial service jobs, and farm labor.
3. *Family and interpersonal relations.* High rates of marital instability (desertion, divorce, separation), high incidence of households headed by females, high rates of illegitimacy; unstable and superficial inter-

personal relationships characterized by considerable suspicion of persons outside the immediate household.

4. *Community characteristics.* Residential areas with very poorly developed voluntary associations and low levels of participation in such local voluntary associations as exist.

5. *Relationship to larger society.* Little interest in or knowledge of the larger society and its events; some degree of alienation from the larger society.

6. *Value orientations.* A sense of helplessness and a low sense of personal efficacy; dogmatism and authoritarianism in political ideology; fundamentalist religious views, with some strong inclinations toward belief in magical practices. Low need achievement and low levels of aspiration for the self.

Although several other characteristics could be added to this inventory, an informal content analysis of the literature indicates that these characteristics are those about which there is considerable consensus and which tend to be stressed as critical features of the poor.

Dissension exists among writers around the question of whether the poor are "happy" or not. Some writers extol the spontaneity of expression among this group; others ascribe the same phenomenon to lack of impulse control. Some see the poor as having a fine and warm sense of humor, but others regard their humor as bitter and sad. Some claim that the poor are desperately trying to change their condition, sinking into apathy when it becomes clear to them that the odds are greatly against their being able to do so; others deny that a strong desire for change exists.

A second point of disagreement arises over whether or not the lower-lowers have developed a contra-culture — a rejection of the core values of American society — or whether they are best characterized by what Rodman calls "value stretch," a condition in which the values of the society are accepted as valid by persons who, nonetheless, exempt themselves from fulfilling the requirement of norms.[9] As described in Rodman, the concept of value stretch is a phenomenon not peculiar to the lower-lowers. No normative system is adhered to completely by everyone in the society, and depending upon the norms in question, the latitude given for compliance can be considerable. For example, adultery has undoubtedly been widespread throughout the whole range of American social strata, although there is clear evidence from attitude surveys that legitimate sexual alliances are to be preferred over adulterous ones. If there is any reason for the concept to be applied to the lower-lowers with more force than to any other group in American society, it is that their lives (for a variety of reasons) depart from standard American values in more areas and more dramatically.

While the more qualitative literature dealing with this population is relatively limited, the quantitative literature dealing with social class as a variable is extensive. Although an attempt was made to collect the major items of empirical research covering the period roughly from World War II to the middle of the 1960's, there are obvious gaps. There is no way of estimating the number of relevant articles missed by the screening methods used or the number of unpublished findings of the kind embedded in reports to various fund-granting agencies. The most serious omissions, however, are the items of research currently underway which have yet to find their way into the published literature.

The current national focus on the poor has, almost by definition, made extensive research funds available to academicians. Perhaps that is a telling commentary on American research: only when problems become defined on a governmental level do they become researchable and fundable. Most observers would agree that, when the War on Poverty was declared, we did not possess the knowledge in the social sciences to provide substantial input to such an undertaking.

In spite of the limitations to our literature survey, one can definitely say that the lower the socioeconomic level:

1. The higher the incidence of family disorganization; for example, divorce, desertion, unhappiness in the marital relationship, illigitimacy.

2. The greater the sense of alienation from the larger society, the poorer the knowledge concerning matters of public interest, the less participation in voting, parapolitical organizations, and associations in general.

3. The higher the incidence of symptoms of mental disorder, the higher the degree of maladjustment as evidenced on personality tests.

4. The less competence with standard English,

the more likely to score poorly on tests of verbal and scholastic ability, and the more likely to drop out of school before completion.

5. The higher the rate of mortality and the incidence of physical disorders, although there is some evidence that such socioeconomic differentials have been declining over time.
6. The lower the need for achievement and the less likely individuals are to manifest what has been called the deferred gratification pattern. However, some critics have questioned the evidence for the deferred-gratification pattern, and some studies have shown that Negroes (presumably the group most likely to be among the poor) manifest very high occupational aspirations for themselves and for their children.
7. The less likely are parents to socialize their children through the use of explanations for obedience to rules and more likely to assert such rules without presenting rationales.
8. The higher are crime and delinquency rates (when based on arrests and convictions), although there is some evidence that law-enforcement agencies treat lower class delinquents more harshly and that when adolescents are asked whether they have committed delinquent acts, the socioeconomic differentials tend to decline.
9. The more likely to be liberal on economic issues but somewhat less liberal regarding civil liberties or toward political deviants.

In other areas of attitudes and behavior the review of the literature did not reveal reasonable degrees of consensus concerning what is related to socioeconomic status. Sometimes contradictory patterns of findings were reported by different researchers; for example, the results in studies of child-rearing practices varied, possibly reflecting the different historical periods in which the studies were undertaken. In other cases the data were too fragmentary or based on such small studies that, for the time being, their results were mainly suggestive; for example, studies of social-class-related linguistic differences are based on such small numbers of observations that the differences found can hardly be said to have been firmly established. Similar statements can be made about studies of value patterns or certain types of leisure activities.

Social Mobility in American Society

In its most extreme form, the position that maintains that the poor are qualitatively different is expressed in the claim that there is a distinctive culture displayed by the poor — the "culture of poverty." Although the findings from the review presented above cast considerable doubt on the distinctiveness of the poor, one aspect of the concept merits some investigation; specifically, the transmission of culture across generations.

Over forty years have passed since Sorokin's classic study of social mobility, and the problems he posed have assumed an important place in sociological research and theory. His words bear repeating.

> Within our societies vertical circulation of individuals is going on permanently. But how it it taking place? . . . what are the characteristics of this process of which very little is known? Individuals have been speculating too much and studying the facts too little. It is high time to abandon speculation for the somewhat saner method of collecting facts and studying them patiently.[10]

To a large extent social scientists have taken up this challenge in recent years. Today we possess a number of studies dealing with social mobility in both the United States and in a number of countries abroad.[11]

The most important study, in many respects, is the recently published work by Blau and Duncan.[12] While social mobility refers to the movement of individuals in the social structure, one way of characterizing the social structure is by its occupational structure. Therefore, we usually study occupational mobility as a form of social mobility. It should be mentioned, however, that we are not interested in job mobility per se, but use occupations as an indication of a person's socioeconomic position.

Duncan and Blau obtained the data for this study using supplementary questions added to the *Current Population Survey* conducted by the Bureau of the Census in 1962. The final sample consisted of about 20,700 males between the ages of 20 and 64 (response rate of approximately 83 percent). This careful study clearly documents that a considerable amount of intergenerational reshuffling among major occupational groups takes place; for example, of those sons listed as laborers in 1962 (among whom persumably the bulk of the lower-lowers would be classified), only 12.2 per cent had fathers who were in the same occupational group: farm laborers (5 per cent), farmers (31.5 per cent), operatives (15.4 per cent).[13]

The basic model presented in this work looks at the process of occupational mobility by studying the interdependence among four determinants of occupational achievement. Two of these refer to a man's social background (his father's education and his father's occupation) and two relate to his own training (education) and experience in the labor market (first job). Blau and Duncan note:

> A man's social origins have a continuing impact on careers that is independent of the two variables pertaining to career preparation. Education exerts the strongest direct effect on occupational achievements . . . , with the level on which a man starts his career being second.[14]

To spell out the further modifications of this work with the necessary care would take us far afield. One final point, however, needs to be made. At several points in the book Blau and Duncan address themselves specifically to the question of a "vicious cycle" of poverty and argue that the data do not show that the various conditions associated with growing up in low social origins have a cumulative adverse affect on occupational chances.

> The fact that several related factors have disadvantageous consequences for occupational achievements, however, do not necessarily indicate that each one adds a further impediment to those produced by the others. On the contrary, it frequently means that their combined effects are in large part redundant and not cumulative.[15]

Our society does contain three groups who suffer from disadvantages — blacks, Southern whites, and the sons of immigrants. These groups, however, show marked differences in the type of cumulative disadvantages. The analysis clearly shows that even if we compare Negroes and whites of the same origins, educations, career beginnings, and occupations, then the income of blacks is lower than that of whites. In the case of Southern whites vis-a-vis Northern whites, the situation is markedly different: after we control for the inferior background and education of Southern whites, there is no longer any difference in their achievement from that of Northern whites.[16]

These two groups, blacks and Southern whites (whether living in the South or migrants to the North), are presumably the target population of much adult basic education. The importance of education in subsequent occupational achievement needs no further elaboration — in view of the overpowering proof that can be brought to bear on this question.[17] We should note, however, that the available studies dealing with mobility which have used education as a major independent variable have usually asked for the respondent's highest grade completed, as well as the highest grade completed by his parents. The different ways in which this education was completed is usually not ascertained. Thus, studies do not differentiate between the man who completed high school at age eighteen and then entered the labor force, the man who dropped out of high school and many years later obtained a high school equivalency diploma, or the man who completed his high school education during his active military service and converted a General Educational Development certificate to a high school diploma. Furthermore, although estimates of the extent of adult participation in educational activities have been made, the extent to which such participation has subsequent occupational effects has not been studied.[18] A small step in the direction of answering the question of the influence of adult participation in education on occupation is being taken by the research group at the Johns Hopkins University.[19]

Our current study involves a national survey of men, aged 30 to 39, from whom we have collected occupational and educational histories from age fourteen. For comparative purposes we have also drawn a national sample of blacks of the same age bracket. Presumably, by having the information pertaining to all full-time, part-time, and military education in which our respondents may have participated, as well as the life-cycle stage in which such education took place, we will be able to assess its impact.

At this time, the data have only begun to be analyzed. Preliminary tables from the national sample indicate the 9.8 per cent of the respondents have been involved in various types of degree oriented education after they left full-time education. On the surface, this is encouraging. The story is less hopeful when one looks carefully at who it is that obtained this additional schooling. Those individuals who left school after highschool graduation are more likely to obtain additional schooling than those who left full-time education earlier. This is an example of "the more, the more" principle: the more education an individual has before leaving full-time education, the more likely he is to obtain additional schooling as an adult.

Retrospective studies, however, are no substitute for longitudinal research. It would appear that, given the investment currently being made in adult education, not only is evaluation research needed, but serious thought should be given to the design of follow-up studies of graduates and drop-outs from adult education.

Education and the Lower-Lowers

Generally speaking, available data on the cognitive and educational abilities of individuals comes from studies of children. The role of socioeconomic status in education has been documented in countless studies and seems to hold no matter what measure of status is used. In a review written a number of years ago, Charters concluded that social class predicts:

> grades, achievement and intelligence test scores, retentions at grade level, course failures, truancy, suspensions from school, high school drop-outs, plans for college attendance, and total amount of formal schooling. It predicts academic honors and awards, elective school offices, extent of participation in extra-curricular activities and in social affairs of the school, to say nothing of a variety of indicators of "success" in the formal structure of the student society.[20]

As noted earlier, most researchers have been so impressed with these types of findings that they have not taken the necessary steps of explaining why such existing relationships are found. With the notable exceptions of Merton and Kriesberg, who have attempted to specify the rationales for class differences, most social scientists accept these findings as ultimate explanations;[21] for example, the relationship between socioeconomic status and tests of intellectual functioning has been documented for decades, yet the study of one of the prior variables, linguistic development, has begun only recently.

To attempt to find studies dealing with adults is to be disappointed. Some of the best documentation of changes in the cognitive and linguistic functioning of adults is found in the psychological research on aging, although sociologists have centered research around children. Current efforts may indeed prove that findings from research dealing with children can be extrapolated to adults. One aspect that offers encouragement is that nowhere in the literature is there any evidence to indicate that age per se should be a reason for rejecting individuals for educational or retraining programs. In a summary of a discussion of learning, Birren writes:

> The evidence that has been accumulating on both animal and human learning suggests that changes with age in the primary ability to learn are small under most circumstances. When they appear, they seem to be more readily attributed to processes of perception, set, attention, motivation, and the physiological state of the organism (including that of disease states) than to a change in the primary capacity to learn . . . At the moment, there is little evidence to suggest that there is an intrinsic age difference in learning capacity over the employed years; i.e., up to age sixty.[22]

In empirical research educational and occupational aspirations have been typically studied by asking high school students their ultimate educational goals (for example, whether they intend to attend college or not) and by asking for an occupational choice. In an extensive study of 35,000 seniors, from a national sample of 500 public schools, Michael finds that social class remains the best predictor of a student's capacity to score in the top quarter of the ability distribution.[23] An earlier study by Sewell, Haller, and Strauss found that measured intelligence and social status each make an independent contribution to educational and occupational aspirations.[24] Studies of blacks tend to show that they have higher aspirations than whites. As could be expected, parental aspirations for children follow much the same pattern. Hyman reviewing national sample survey results, found that parents' educational and occupational aspirations for their children are directly related to socioeconomic status.[25]

With perhaps one exception such studies have not been conducted among adults.[26] The receptiveness, therefore, of adults to additional education for *themselves* remains problematic. On the whole Americans believe in the utility of education; for example, a recent national survey showed that over half of the population agrees strongly with the statement that "every capable person has the right to receive an education through college, even if he cannot afford it."[27]

In sum, it is very difficult (as a sociologist) to say very much about the attitude toward, participation in, and perception of education of the poor. However, on the basis of the preceding discussion, it should appear evident that in principle one should argue that the most effective type of educational programs to be established within the next few years would be those which would be available to all income groups. This same bias suggests, however, that even if current educational attainment is raised beyond the level of the past few decades, technological and organizational change will increasingly demand new skills and new training. At the moment, however, a distinction must be maintained between efforts to train low-income adults to function satisfactorily in our society and to become regular members of the labor force and efforts to upgrade the skills of those higher in the occupational system.

In the literature surveyed, no research was encountered conducted with adult education populations. Whether it exists at all or was completely overlooked, or has appeared in publications not usually read by sociologists is an unanswered question.

The following are suggested areas which could be explored by ABE personnel. No attempt has been made to lay out a complete research program.

1. *The teacher.* What kind of a teacher and what kind of teaching produces the best learning results?[28] How can we measure teacher effectiveness? How does a teacher's access to background information about a student help or hinder his interaction with the student?
2. *Teaching methods.* Systematic experimentation with adult groups, designed to include evaluation, could lead to innovations which could then be transferred to other levels of the educational system. Two such examples come to mind: first, computer-assisted instruction and second, the use of computer programs or games which simulate real decision-making processes.
3. *Teaching contexts.* Both Witty and Shoemaker suggest that the low-income adult requires a direct application for what he learns so that its relevance can be established.[29] What are the differential effects of learning in different environments? For example, is learning more effective if part of a job program, a week-end or evening activity, with one's neighbors, or with total strangers?
4. *Incentives.* To be poor in our society is psychologically punishing and the ways in which this negative evaluation manifests itself are many. What types of approaches, reinforcements, and incentives can be provided in the ABE classroom to minimize this negative evaluation?
5. *Spill-over.* Does participation in ABE programs influence the educational achievement and attitudes of children in the family? Can parental involvement in making up for their own educational deficits provide a stimulus for children? Does participation in ABE lead to greater participation in other programs and to decreased alienation from the society? To what extent is participation in ABE rewarded and recognized by potential employers?

The Conclusion

To achieve the goal of equality of opportunity and socioeconomic well being in the American society a knowledge is necessary of what type of directed social change is needed. While it is generally accepted that the evidence is overwhelming that educational attainment is a main route to social mobility, knowledge of the type of programs which will be most effective is limited. No doubt both practical and reasonable considerations stand in the way of adult basic education personnel undertaking extensive research aimed at evaluation. At the same time, given the growing concern on the part of educators and policy makers about problems of functional illiteracy, social scientists should formulate and carry out evaluation research to aid the decision-making process by providing information about what "works" with particular populations and what does not.

Research is a very specific type of activity. Research is not defined here as descriptive accounts of how many people were involved in a particular program, casual reports of activities which take place within a program, endorsements of a program by participants who feel their lives have been changed, or casual statistics of unknown origin. At best, these types of activity give an understanding about the extent to which a program has reached the population it is intended to serve. Research appropriate to adult basic education is defined here as studies which would critically assess the impact of the program on the participants. The design most appropriate to the problem at hand is some variant of a controlled experiment.

Typically, in the controlled experiment individuals are tested before and after participation in a program and gains are assessed. Such experiments can only be successful if appropriate control or comparison groups are used. One of the major failings of evaluation of intervention programs has been a lack of attention to follow-up studies. For example, in two randomly assigned groups one teaching method may be found more effective than another when posttest scores are compared, but this finding does not guarantee that long-term retention behaves in a similar fashion.

Controlled experiments are difficult to carry out; analysis of results using some of the complex statistical techniques developed in social sciences in the past few years is also difficult.[30] Social scientists have an obligation to try.

NOTES

The author is indebted to Peter H. Rossi for his continued encouragement of her interests in social stratification and for the many that led to the current work.

1. Discussion and critique of the relationship between social science and social policy see Daniel P. Moynihan, *Maximum Feasible Misunderstanding* (New York: Free Press, 1969), p. 191.

2. Walter B. Miller, "Lower Class Culture as a Generating Milieu of Gang Delinquency," *Journal of Social Issues* 14, no. 3 (1958): 5-19.

3. Oscar Lewis, *Five Families* (New York: Basic Books, 1959).

4. Ibid.

5. Oscar Lewis, *La Vida* (New York: Random House, 1965), p. xliii.

6. An attempt at such an account is presented in Peter H. Rossi and Zahava D. Blum, "Class, Status and Poverty," in *On Understanding Poverty: Perspectives from the Social Sciences,* ed. Daniel P. Moynihan (New York: Basic Books, 1969); pp. 36-64.

7. Zahava D. Blum and Peter H. Rossi, Social Class Research and Images of the Poor: A Bibliographic Review," in *On Understanding Pov- Daniel P. Moynihan (New York: Basic Books, 1969), pp. 343-398.*

8. *For an exposition of both the meaning and the measurement of lower-lowers and the other four classes he identifies, see W. Lloyd Warner, Marchia Meeker, and Kenneth Eells, Social Class in America* (Chicago: Science Research Associates, 1949).

9. Hyman Rodman, "On Understanding Lower Class Behavior," *Social and Economic Studies Class Value Stretch," Social Forces 42, no. 2 (1963): 205-215.*

10. *Pitirim A. Sorokin, Social Mobility* (New York: Harper, 1927), p. 414.

11. For a comparative bibliography as well as a comparative analysis of results see Seymour M. Miller, "Comparative Social Mobility," *Current Sociology* 9, no. 1 (1960).

12. Peter M. Blau and Otis Duncan, *The American Occupational Structure* (New York: John Wiley & Sons, 1967).

13. *Ibid.*, p. 496. Appendix A of this paper presents one of the Blau and Duncan mobility tables.

14. *Ibid.*, pp. 402-403.

15. *Ibid.*, p. 404.

16. *Ibid.*, p. 406.

17. The reader is referred to Chapter II, "Social Mobility," *Toward a Social Report* (Washington, D.C.: U.S. Department of Health, Edu-

18. John W. C. Johnstone and Ramon J. Rivera, *Volunteers for Learning: A Study of the Educational Pursuits of American Adults* (Chicago: Aldine Publishing Co., 1965).

19. Program of research, *Education and Social Change for Negro Americans,* under the direction of Peter H. Rossi, James S. Coleman, and Zahava D. Blum. This research is funded by a Center for the Study of Social Organization of Schools, The Johns Hopkins University.

20. Werrett W. Charters, Jr., "The Social Background of Teaching," in *Handbook of Research on Teaching,* ed. Nathaniel L. Gage (Chicago: Rand McNally, 1963), p. 740.

21. Robert K. Merton, "Continuities in the Theory of Social Structure and Anomie," in *Social Theory and Social Structure* (Glencoe, Ill.: Free Press, 1957), pp. 161-194; Louis Kriesberg, "Socioeconomic Rank and Behavior," *Social Problems* 10, no. 4 (1963): 334-352.

22. James E. Birren, *The Psychology of Aging* (Englewood Cliffs, N.J.: Prentice-Hall, 1964), p. 169.

23. John A. Michael, "High School Climates and Plans for Entering College," *Public Opinion Quarterly* 14, no. 3 (1961): 5-19.

24. William H. Sewell, Archibald O. Haller, and Murray A. Strauss, "Social Status and Educa-

tional and Occupational Aspiration," *American Sociological Review* 22, no. 1 (1957): 67-73.

25. Herbert H. Hyman, "The Value Systems of Different Classes; A Social Psychological Contribution to the Analysis of Stratification," in *Class, Status, and Power,* eds. Reinhard Bendix and Seymour M. Lipset (New York: Free Press of Glencoe, 1966), pp. 488-499.

26. Leonard Reissman, "Levels of Aspiration and Social Class," *American Sociological Review* 18, no. 3 (1953): 233-242.

27. National Opinion Research Center Amalgam Survey SRS-4050, April, 1968.

28. For a documentation of ignorance in this area, see Sarane S. Boocock, "Toward a Sociology of Learning: A Selective Review Existing Literature," *Sociology of Education* 39, no. 1 (1966): 1-45.

29. Paul A. Witty, "Guiding Principles in Reading Instruction," in *Basic Education for the Disadvantaged Adult: Theory and Practice,* eds. Frank W. Lanning and Wesley A. Many (New York: Houghton Mifflin, 1966). pp. 258-265; Harry A. Shoemaker, "The Functional Context Method of Instruction," Human Resources Research Office Professional Paper, 35-67 (Washington, D.C.: George Washington University, 1967).

30. For an excellent discussion of various designs, see Donald T. Campbell and Julian C. Stanley, *Experimental and Quasi-Experimental Designs for Research* (Chicago: Rand McNally, 1963).

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Appendix A

Table 4

Mobility from Father's Occupation to 1962 Occupation (Percentage Distribution), by Race, for Civilian Men 25 to 64 Years Old, March 1962

Race and Father's Occupation	1962 Occupation 1/ Higher White Collar	Lower White Collar	Higher Manual	Lower Manual	Farm	Not in Exp. Civ. Labor Force	Per cent	Number (000)
NEGRO								
Higher White Collar	10.4	9.7	19.4	53.0	0.0	7.5	100.0	134
Lower White Collar	14.5	9.1	6.0	69.1	0.0	7.3	100.0	55
Higher Manual	8.8	6.8	11.2	64.1	2.8	6.4	100.0	251
Lower Manual	8.0	7.0	11.5	63.2	1.8	8.4	100.0	973
Farm	3.1	3.0	6.4	59.8	16.2	11.6	100.0	1,389
Not reported	2.4	6.5	11.1	65.9	3.1	11.1	100.0	712
Total, Per Cent	5.2	5.4	9.5	62.2	7.7	10.0	100.0	. . .
Total, Number	182	190	334	2,184	272	352	. . .	3,514
NON-NEGRO								
Higher White Collar	54.3	15.3	11.5	11.9	1.3	5.6	100.0	5,836
Lower White Collar	45.1	18.3	13.5	14.6	1.5	7.1	100.0	2,652
Higher Manual	28.1	11.8	27.9	24.0	1.0	7.3	100.0	6,512
Lower Manual	21.3	11.5	22.5	36.0	1.7	6.9	100.0	8,798
Farm	16.5	7.0	19.8	28.8	20.4	7.5	100.0	9,991
Not reported	26.0	10.3	21.0	32.5	3.9	6.4	100.0	2,666
Total, Per Cent	28.6	11.3	20.2	26.2	6.8	6.9	100.0	. . .
Total, Number	10,414	4,130	7,359	9,560	2,475	2,517	. . .	36,455

Source: Unpublished tables, survey of "Occupational Changes in a Generation."

1/ Combinations of census major occupation groups. Higher white collar: professional and kindred workers, and managers, officials, and proprietors, except farm. Lower white collar: sales, clerical, and kindred workers. Higher manual: craftsmen, foremen, and kindred workers. Lower manual: operatives and kindred workers, service workers, and laborers, except farm. Farm: farmers and farm managers, farm laborers, and foremen. Classification by "father's occupation" includes some men reporting on the occupation of a family head other than the father.

Source: Toward a Social Report (Washington, D.C.: U. S. Department of Health, Education and Welfare, 1969). p. 24.

Overview of Adult Basic Education Research and Programs

ADULT BASIC EDUCATION RESEARCH

Irwin R. Jahns

The present era is experiencing the most revolutionary rethinking of student-teacher relationships since the introduction of the printed word by Gutenberg in the fifteenth century. Prior to the printing press, the teacher was the primary intermediary between the student and the subject matter to be learned. The teacher, as the disseminator of knowledge, was an essential element in the educational process. The introduction of printed materials did not displace the teacher but it did change the functions the teacher performed. Rather than being the sole disseminator of that which was to be learned, the teacher became more concerned with structuring the learning environment by the astute preparation, selection, and scheduling of written materials.

The recent introduction of various technological advances have been and are as revolutionary as the printing press. Given the promised capabilities of technology, there may no longer be any reason to have a teacher as intermediary in the relationship between student and that which is to be learned. The position of teacher may be replaced by two more specialized positions — that of the programmer, whose concern will be the design of the learning environment, and that of the proctor, whose concern will be the access, functioning, and utilization of appropriate instructional media. Other functions, presently performed by the teacher, such as counseling, test grading, drill, and recitation monitoring, will need to be structured into the educational situation by the judicious organization of other specialized positions or the programming of relevant technology. Thus the art of teaching might be transformed into the technology of materials preparation and environmental programming. The whole educational system may be restructured as educators become more conscious of, and consistent in, the application of such laboratory concepts as shaping, imitation, and over-learning. In other words, educators will become more cognizant of those forces that facilitate interaction between the learner and the content to be learned and those conditions that best reinforce the learning of accepted interpretatios or utilizations of content relating to the ongoing affairs of the students' life.

Most educators would agree that teaching is, at present, more of an art than a science. It is diffucult to observe, quantify, and communicate to others that which makes instruction successful or unsuccessful. Some would say education, and especially adult education, is not a science at all; that the guidelines now followed are combinations of practical techniques and obscure or poetic speculations. Consequently, either the practitioner has a feel for what he is doing, or he does not since few, if any, scientific rules or laws guide his behavior, and since the principles he recites by rote are seldom translatable into practice.

This paper will focus on the nature of some of the research that has been conducted in adult basic education (ABE). The topic will encompass a concern for all those forces related to teaching and learning in adult basic education.

Concern about adult basic education research is a fairly recent phenomenon. One can speculate on the forces that have generated this emerging concern — the federal commitment to ABE in 1964; the increased awareness of a disadvantaged population that might benefit from adult education by those entering a graduate program of studies; and probably more importantly, the increased involvement of faculty in various programs among the disadvantaged populations. Whether this involvement is leading to the identification of superficial research questions or is leading to a meaningful, imaginative exploration of the field is open to considerable debate and is not the basic task of this paper.

The Character of ABE Research

In exploring the limited number of research efforts conducted on ABE, one is impressed with the diverse array of topics that have been studied. This may, in part, reflect the nature of adult basic education in that there are psychological, sociological, institutional, procedural, administrative, developmental, organizational, curricular, and other issues that are all competing, simultaneously, for the attention of the researcher, the admintrator, and the practitioner in the field. It would appear that adult basic education is not a discipline. It is an area of application that can utilize the competencies of specialists in many fields. It is not a unitary area of application or of curricular concern, such as is reading or math education, but is a diverse field in itself. No single adult educator — researcher, academician, or practitioner — has the expertise to address himself to all of the facets of ABE. Current research reflects this array of concerns.

In attempting to develop some order out of the apparent chaotic state of ABE research, the schema in figure 1 was developed. It is a tentative schema and reflects a very crude attempt to systematize observation of ABE instruction. Note that six general categories of variables were identified as existing in the instructional situation — teacher, student, subject matter, methodology (including materials and devices), classroom environment (physical and social attributes), and social milieu (outside of the classroom). The component variables within each category interact with most of the other variables in dynamic, and, at present, largely unknown ways and result in some educational product.

This product, to educators, is usually operationalized as some quantitative measure such as grade level gain, satisfaction level, skill or behavioral performance, or dropouts. The unique interaction of these elements or variables defines or describes any given instructional situation. Change one significant element or variable and the instructional situation is changed. Consequently, few instructional situations are exactly alike. They are complicated and varied. A good adult educator, in my opinion, recognizes this. A good researcher also recognizes this and tries to control, insofar as is possible, the influence of extraneous variables.

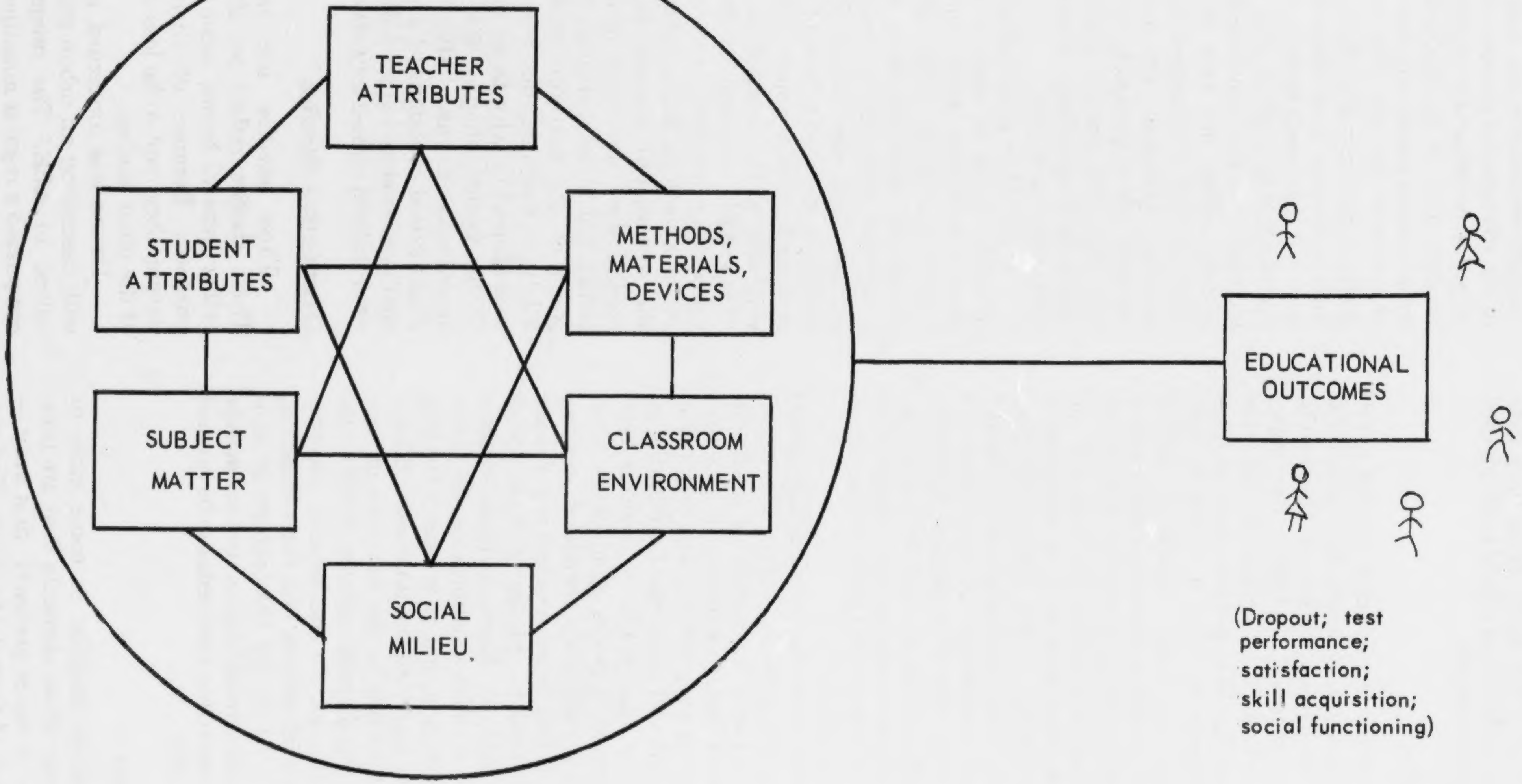
Researchers usually ask relatively simple questions about instructional situations, although these questions are not always simple to operationalize or control. The reading specialist may ask "What is the relationship between the reading materials used and reading skill acquisition?" A psychologist may ask "What is the relationship between a personality attribute and some educational result such as dropout or retention?" Other specialists, of a developmental rather than an empirical nature, might concern themselves with the relationships between one instructional variable to another, such as how to utilize certain technological devices or instructional techniques for the presentation of various number of variables, and explores them in some more or less controlled fashion to seek answers to the questions he is raising. The practitioner, in making program decisions, is concerned with all of these variables at once. The dilemma is obvious. The practitioner wants answers; the researcher wants questions — that can be operationalized and researched in some controlled fashion. The practitioner is concerned with making the best possible decision within limits of time, expense, and experience; the researcher is concerned with the validity and reliability of the answers empirical research can give. An issue that faces those who are concerned with quality ABE programs, now and in the future, is the compatibility of pressures to make judgmental, value oriented decisions versus needs to rigorously research the many unknowns in the field.

What is the nature of the research questions that have been raised? At the risk of over-simplification, but for convenience, three kinds of research or evaluative studies have been identified. These are characterized as being (1) primarily descriptive in nature; (2) primarily oriented toward the outcomes of ABE instruction; and (3) primarily concerned with some aspect of the educational process. These are not mutually exclusive categories, but they do provide a referent in attempting to understand and assess the research and evaluative studies that have been conducted.

Descriptive Studies

Descriptive studies address themselves to the question "What is going on in ABE?" Every administrator who has attempted to gather information on such things as enrollment and expenditures has been collecting descriptive data. These data are crucial to every educational program. The administrator needs to know what is going on. He must be able to describe and justify his program. The difficulties involved in obtaining these data from teachers, county personnel, and others is well-known. Likewise, everyone has some idea how accurate these data are. At certain levels of decision making, and for certain kinds of decisions, a fair approximation of

FIGURE I


TEACHER ATTRIBUTES
STUDENT ATTRIBUTES
METHODS, MATERIALS, DEVICES
SUBJECT MATTER
CLASSROOM ENVIRONMENT
SOCIAL MILIEU
EDUCATIONAL OUTCOMES

(Dropout; test performance; satisfaction; skill acquisition; social functioning)

(Unique combination of elements)

FIGURE I -- ORGANIZING SCHEMA FOR STUDY OF ADULT BASIC EDUCATION INSTRUCTION

reality is sufficient to guide our program efforts. The researcher, however, must be concerned with accurate data if his study is to be a genuine contribution rather than a half-truth glossed over with respectable words.

Outcome Studies

Outcome studies are directed toward a relatively simple question, but one that is central to adult basic education: "What is the result, what is the consequence of ABE?" For many traditional educators, it is heresy to ask this question. Education, like prayer and psychotherapy, is assumed to have a desirable and real consequence. Its value therefore, cannot be questioned. To question the nature and quality of the educational outcome is seen as a personal threat to the integrity of many teachers and administrators. Likewise, it is seen by many as a groundless questioning of the educational procedures that have been sanctified and hallowed by time-honored experience. A reluctance to attempt preprogram and postprogram measures of student abilities or to conduct follow-up assessments of former students also appears to be a reflection of the questionable consequence of the educational effort.

Unfortunately, when considering educational outcomes, educators seem to define the consequence only as a grade level gain as measured by a standardized test, regardless of the relevance of this test to program content or its relevance to the social and economic functioning of the student in the real world. A positive relationship is assumed between grade-level functioning and such variables as occupation, income, and level of living. But, to what extent is a change in grade level related to change in these social and economic indices? More realistic criteria of success might be such variables as job placement and job retention, but it is uncomfortable to take this great leap into the unknown. Educators often feel they are in the business of educating, and are not directly concerned with ultimate behavior change. To comfortably incorporate such behavioral criteria into their thinking, educators will need to see themselves as concerned with behavior modification and not merely concerned with imparting knowledge to be learned regardless of utility.

Process Studies

Process studies describe in some more or less controlled way those elements that are present or absent — or more precisely, that vary — during the period of formal education. Unfortunately, the independent variable, education, is rather ill-defined. Most individuals have some capacity to describe the many elements involved in the educational process. Some even may have acquired considerable expertise and competence in some area of the instructional situation. But in fact, many people who have attained the status of educator are not able to identify, quantify, and communicate what they do that differentiates their successes from their failures. Most would say — if they are honest — they stumbled on an approach that worked, that they were comfortable with, and they stuck with it. Methods classes usually reflect this lack of clarification of the elements and processes involved in instructional settings. Likewise, the constant demand by teachers for a gimmick, a technique or a system that will ensure instant success, reflects this lack of specificity of the nature of the variable called education.

It should be apparent that this hasty sketch of study types is more a reflection of reality than it is reality itself. None of the studies reviewed has clearly fallen into any one of these categories, although some were more centrally concerned with either descriptive, outcome, or process than were others. Tables 1 and 2 summarize a categorization of the twenty studies reviewed in this paper. Three have a heavy emphasis on the description of various attributes of an ABE program, thirteen raise questions concerning outcome, and each of the twenty raises questions concerning some element(s) of the educational process. Seven of the process studies were not concerned with learning outcomes, but focused entirely on process elements. None of the outcome studies was addressed solely to outcome, but were also addressed to some aspect of why these results were attained. Of the twenty studies, thirteen were addressed specifically toward ABE concerns, whereas seven raised questions of a more general nature that were explored in an ABE situation but could have utilized almost any other adult population.

Descriptive Studies

Three studies are largely descriptive.[1] These studies reflect an effort to describe, in rather general terms, some aspect of the ABE program. Because of their all-encompassing nature, they tend to be less analytic than many of the other studies.

Dutton was concerned, among other things, with describing an urban student population involved in ABE.[2] The program he studies encompassed a regular nonstipended ABE program and a stipended Title V program for welfare

Table 1

Number of Studies Reviewed with Focus on Description, Outcome and/or Process

Area of Concern	Number
Description	3
Outcome	13
Process	20

Table 2

Variables Included in Studies Cited

	Process Studies						Outcome Studies
Researcher	Teacher Behavior	Teacher Atributes	Class Structure	Instructional Methods	Student Attributes	Interaction	
Aker & Johns		x			x		x
Aker, et. al.		x			x		x
Blakey	x					x	
Bradtmueller					x		x
Carpenter		x					
Davis	x	x	x				x
Dutton			x		x		
Endwright					x		x
Higgins					x		
Jones	x	x					x
King			x				x
Mauk				x			x
Newman		x			x		x
Palmer					x		
Rose	x	x				x	
Scanland				x			x
Scharles					x		x
Schroeder & Johns	x	x				x	
Smith & Geeslin				x			x
Varnado				x			x
	5	8	3	4	9	3	13

Table 3

Number of Variables, by Category, Significantly Associated with Type of Program Participation

Category of Variables	Size of Sample	Number of Significant Variables
Personal	5	5
Social	11	5
Leisure	15	5
Employment	4	4
Personal & Family Problems	25	11
Educational	36	24
Community	5	1

(Source: Dutton)

recipients. Dutton studied 101 variables that were categorized as personal, social, leisure, employment, problems, educational, and community characteristics. He found some basic differences between the populations participating in these two programs. Each of his five personal variables and his four employment variables differentiated between those enrolled in the stipended and the nonstipended programs. This is not too surprising since such characteristics as sex, age, family income, marital status, and employment status, are among the criteria used in recruiting and screening students for these programs. The number of variables significantly associated with different types of program participation are presented in table 3. A total of 55 of the 101 variables were statistically significant.

Some of the more relevant observations that can be made from Dutton's data include: (1) the element of propinquity or accessibility of the class was more important to the nonstipended participants than to those who received a stipend. Nearly one-half of the former compared with one-tenth of the latter lived within a distance of one mile from their class location. It would seem that money has a real motivational influence; (2) stipended students had higher initial grade placement than nonstipended students. Ninety-eight per cent of the stipended students tested at a 4.0 grade level or higher compared with fifty-six per cent of the nonstipended; (3) stipended students indicated a significantly greater awareness of, and concern for, personal and family problems such as money, work, family, children, and house, reported what might be

Table 4

Level of Alienation of ABE Students and Teachers

Level of Alienation (Dean's Scale)	% Rural Mississippi Teachers (N = 25)	% Rural Mississippi Students (N = 238)	% Urban Florida Students (N = 251)	% Urban Florida Students	
				Stipend (N = 96)	Non-Stipend (N = 155)
Low (Score of 48 or less)	.44	.15	.34	.44	.28
Medium (49–57)	.36	.32	.33	.31	.34
High (58 +)	.20	.53	.33	.25	.38

(Sources: Dutton; Aker, Schroeder and Jahns) deemed more realistic future vocational goals, and were more likely to identify specific subject content — as compared with socializing and personal ends — as the primary value of attending class; and (4) the stipended students were found to be less alienated, that is, they had a feeling of some mastery or control and some involvement in life than did the nonstipended students. A comparison of levels of alienation of the students reported in the Dutton study and those being studied by Aker and Jahns are presented in table 4.[3]

Aker, Schroeder and Jahns gave a detailed description of participants in an Office of Economic Opportunity (OEO) funded farm workers program conducted in a southern state.[4] These data were generated as a result of a consulting relationship established with the ABE program and, in large measure, reflect the kinds of data that were gathered by the program staff prior to the consulting relationship. Again, recruitment and screening decisions affected the character of the student population, but in general, it was an older population who were functioning at a lower grade level than the Dutton population. This particular study is now being replicated by Aker and Jahns in another farm workers program using more adequate test data, more researcher generated questions, and closer supervision of the data collection process.[5]

Taken by themselves, these descriptive data tell little. Most good program administrators have data that are nearly as complete as these, which undoubtedly give a more adequate reflection of the character of public school adult basic education. One might question what difference it makes whether these data exist or not. The answer is, probably none, unless the data are useful in generating and clarifying more specific questions that need to be resolved or if they are useful in making more adequate program-related decisions.

OUTCOME STUDIES

Thirteen studies were conducted that reported on some educational consequence that accrued from the ABE program. Of those studies completed, six reported grade level gain as measured by standardized tests, and five reported on dropout rates and retention.

Grade Level Gain

In a report to the Florida State Department of Education in 1968 Bradtmueller summarized the educational attainment of participants in a 1967 summer migrant ABE program.[6] Among other questions, he asked: (1) Do migrants gain in tested competence? and (2) What is the relative competence at the beginning and at the end of the program? His data, collected under the supervision of county program personnel at the request of the State Department, indicated a .58 average grade level gain during the fourteen 420-instructional-hour program. Two hundred and ten instructional hours were devoted to prevocational education and 210 hours to basic education. Pretest scores indicated an average grade level of 3.98 and posttest scores averaged 4.56. This is approximately a one-half year educational gain in fourteen weeks. This gain was not evenly distributed throughout the subtests of the test given. Bradtmueller reported the smallest gain was in vocabulary and the greatest gain was in reading comprehension. He reported these gains were the approximate equivalent of one-third and two-thirds, respectively, of a year's growth. Arithmetic gains (computation and problem solving) averaged better than five months' growth in fourteen weeks.

Bradtmueller also observed that, in general, those participants with higher pretest scores made smaller gains than those with lower pretest scores, although their relative standings were maintained. This is a surprise since one might expect education to emphasize the ability differential between students rather than leading to greater homogeneity of educational functioning. In this study participants were educationally more alike at the termination of the program than at its inception. One may question what it is that had this effect — the students, the subject content, or instructional methodology. These concerns could not be explored adequately with the data Bradtmueller had available, but he did determine the association between gain and age, amount of prior formal schooling, and number of years since formal schooling was terminated. He noted that older students gained more in vocabulary and reading skills than did the younger students; that the more formal schooling a student received as a child, the less the educational gain achieved in this program; and the longer a student had been out of school, the greater his growth in vocabulary and computation and the smaller his growth in reading and problem solving.

In the outcome study conducted by Aker, et. al., a more elaborate analysis was made of grade level achievement and those factors associated with this achievement.[7] The authors found that the average pretest grade level was 2.6 and posttest level was 4.9 in the stipended OEO-funded seasonal farm workers program they studied. The number of instructional hours in this program is not known, but it was not in excess of 840 hours. Grade level gain was not equitably distributed across the student population. Similar to Bradtmueller's findings, those who tested relatively low on the pretest made a greater gain than those who tested high, although the relative standings of individuals were maintained from pretest to posttest. An attempt was made to determine if any student attributes, available from program records, were associated with this gain. Only one significant association was found — posttest grade level. A comparative analysis of sex and residential characteristics as they affect grade level gain is presently being conducted. Preliminary data are presented in table 5. These data indicate that relative gains between preprogram, midprogram and postprogram tests varied by both sex and residence.

Data were collected by the authors on certain instructional and program related characteristics. Unfortunately, the researchers had no way of matching a given student with a given teacher since interclass mobility of both teachers and students was quite high. Consequently, data on instructional staff were grouped so that comparative analyses could be conducted between the several educational centers being operated by the program.

Of the nine educational centers, with a total average grade level gain of 2.3, the three highest-gain centers averaged a student gain of 3.4 grade levels (range of 3.2 to 3.7), and the three lowest-gain centers averaged 1.8 grade levels gain (range of 1.3 to 1.9). These data are shown in table 6. From analyses of the data, it was found that low-gain centers had more male than female teachers (about three to one), whereas high-gain centers had approximately equal numbers of male and female teachers. High-gain center teachers were more likely to report no previous adult instructional experience (three to one) whereas low-gain center teachers were more likely to report previous adult teaching experience (again three to one). Teachers in high-gain centers were less likely to report a professional commitment to adult education than were teachers from low-gain centers (seven-eight per cent as opposed to ninety-one per cent). These data are somewhat reminiscent of some of the findings of the Greenleigh study conducted three years ago.[8]

In the Aker, et. al., study, teachers were asked to identify, from a prepared list, what they considered to be the three largest problems and the three smallest problems they faced. These data are summarized in table 7. A majority, sixty-seven percent, of the high-gain center teachers expressed concern with individualization of instruction compared with the twenty-two percent of the low-gain center teachers who expressed this concern. Conversely, low-gain teachers expressed greater concern with pacing their classes for slow and fast learners than did high-gain center teachers (sixty-four per cent as opposed to thirty-three per cent). Low-gain teachers identified preparation of teacher-made materials and application of instruction to the everyday life of the student as being of little concern, whereas their greatest concerns were pacing the class and selecting suitable commercially available materials. In looking at the patterns of responses to the problems identified, one gets the impression that teachers in low-gain centers, as a group, were less concerned about the individual student and with the application of educational subject matter to nonschool related concerns. They were more concerned with pacing the class as a whole and with the selection of suitable materials rather than with the preparation of locally-relevant materials. On the other hand, teachers from high-gain centers appeared more concerned with individualization of instruction and less concerned with pacing the class. These data, although strictly speculative in nature, suggest that the instructional orientations of teaching staff might be a fruitful area for future research and study.

In another outcome study, Endwright reported on the educational achievement of prisoners involved in a voluntary, full-time program using inmate instructors.[9] He noted that intermediate students (pretest scores of 4.0 to 7.9) made somewhat faster gains than primary level students (pretest scores of 0.0 to 3.9). Those at the advanced level (pretest scores of 8.0-12.0) made the greatest gains. He reported a .6 grade level gain every eight months for primary students; a .9 grade level gain every eight months for intermediate students; and, a 2.6 grade level gain every seven months for advanced students. The gain for the 166 students in this program averaged 1.5 grade levels every seven and one-half months. He noted that white students made somewhat faster progress than nonwhite students. The average age of all students was reported to be 40 and their IQ averaged about 95.

Dropout

Six studies explored dropout as an outcome variable. Smith and Geeslin reported a high dropout rate (fifty per cent) in the programs they were using to test the relative advantages of traditional materials compared with a teacher kit they were developing.[10] They reported that

Table 5

Pre and Post Test Scores and Grade Level Gain

Tentative

Variable	Pre-test Score	Post-test Score	Grade 1st-2nd	Level 2nd-3rd	Increase 1st-3rd
Total (N = 228)	2.6	4.9	.9	1.3	2.3
Total Rural (N = 170)	2.6	5.0	.8	1.7	2.4
R Female	2.9	5.9	1.0	1.9	3.0
R Male	2.5	4.6	.6	1.5	2.1
Total City (N = 59)	2.6	4.4	1.1	.6	1.7
C Female	3.3	6.3	.8	1.2	2.0
C Male	1.6	3.6	1.6	.3	2.0
Total Female (N = 88)	3.1	5.7	.9	1.6	2.6
Total Male (N = 141)	2.2	4.4	.9	1.3	2.2

Table 6

Achievement and Percent Dropout by ABE Centers

	Achievement (Means)				Dropout		
	Number	Pre-Test	Post-Test	Mean Gain*	Number	Dropped	Persisted
High Centers							
A	15	3.55	7.22	3.67	25	20.0	80.0
B	17	3.05	6.27	3.22	23	13.0	87.0
C	14	2.29	5.50	3.21	24	16.7	83.3
Total	46	2.98	6.35	3.37	72	16.7	83.3
Medium Centers							
D	18	2.33	4.97	2.66	38	36.8	63.2
E	35	2.39	4.81	2.42	74	41.9	58.1
F	16	2.61	4.72	2.11	29	31.0	69.0
Total	69	2.42	4.84	2.41	141	38.3	61.7
Low Centers							
G	30	2.26	4.17	1.91	40	17.5	82.5
H	15	2.34	4.20	1.86	31	31.0	69.0
I	15	2.94	4.27	1.33	32	37.5	62.5
Total	60	2.45	4.21	1.75	103	28.2	71.8

Source: Aker, Schroeder and Jahns

* The differences in the Mean Gain between centers was significant at the .01 level.

Table 7

Success of Centers by Nature and Intensity of Problems Perceived by ABE Teachers.[a]

Center Achieve- m ment	Density of Problem	Num- ber	B	C	D	E	F	G	H	I	J	K	L
High	Largest	9	66.7	33.3	22.2	33.3	0.0	11.1	22.2	11.1	44.4	11.1	44.4
	Smallest	9	22.2	44.4	33.3	22.2	33.3	22.2	33.3	22.2	22.2	11.1	33.3
Medium	Largest	11	27.3	54.5	27.3	0.0	27.3	18.2	9.1	27.3	36.4	18.2	36.4
	Smallest	11	9.1	27.3	18.2	27.3	27.3	27.3	27.3	9.1	27.3	27.3	36.4
Low	Largest	11	18.2	63.6	18.2	27.3	18.2	0.0	27.3	18.2	54.5	9.1	45.5
	Smallest	11	0.0	18.2	45.5	27.3	18.2	27.3	36.4	27.3	18.2	54.5	18.2
Total	Largest	31	35.5	51.6	22.6	19.4	16.1	99.7	19.4	19.4	45.2	12.9	41.9
	Smallest	31	9.7	29.0	32.3	25.8	25.8	25.8	32.3	19.4	22.6	32.3	29.0

(Source: Aker, Schroeder and Jahns)

[a] Respondents were asked to designate their three largest and three smallest problems--the percentage in each cell is based on the total number of teachers employed by each group of centers typed according to achievement level of their students.

B – Individualizing Instruction.
C – Pacing Class for Fast and Slow Learners.
D – Application to Life of Student
E – Recruitment of Students.
F – Dropout.
G – Regularity of Attendance.
H – Determining Grade Level
I – Measuring Student Progress.
J – Selecting Suitable Materials.
K – Preparing Materials.
L – Helping Students with Personal Problems

this high attrition was due to spring farm work and to lack of funds to continue employment of instructional staff. Aker, Schroeder and Jahns reported a dropout rate of twenty-eight per cent in their study of a southern farm workers program.[11] The age of the student and the expectations he held regarding the program were reported to be associated with dropout. Age was negatively associated with dropout. Those students who had greater initial expectations that the program would be helpful in resolving various problems were more likely to drop out.

Scharles studied dropout, but did not report the rate he found in the adult evening high school program he studied.[12] He was primarily concerned with the personality attributes that dropouts exhibited compared with nondropouts. He found a sex difference between dropouts and nondropouts. Compared with male dropouts, male nondropouts had a higher need for affiliation but a lower need for autonomy. Female nondropouts, compared with female dropouts, had a higher need for abasement but a lower need for achievement.

Jones, among other things, considered the question of persistence in adult vocational classes.[13] While he did not report on dropout rates, he did report that teacher attributes, such as mental ability and educational level, were not factors in student retention. He found that the teacher's knowledge of subject matter was negatively correlated with persistence in the program.

The civil defense study conducted by David,

while not directly related to ABE, has relevance for us.[14] This study, conducted in 1963, reported twenty-nine adult education dropout studies between 1928 and 1962. Eighteen of these were concerned with public schools. He found that, of the enrollees in civil defense adult education, up to thirty-six percent never came back to a second class meeting and that dropout rates ranged from no dropout to sixty percent. He also reported that administrative decisions, such as the time of day the class was held, length of sessions, frequency per week the sessions were held, previous teaching experience of the teacher, and size of class had no significant affect on dropout. He did find that in those classes where the instructor talked to students as an equal, as reported by the students, the dropout was significantly less. These data suggest some variables that might fruitfully be pursued in ABE research.

In summary, the outcome studies that have been conducted — at least those that identify a variable that can be categorized as outcome — have been diverse and rather numerous. The pattern that emerges is rather sketchy and certainly does not warrant any widespread generalization. A major point that must be raised — a criticism — is that no outcome studies have been conducted that explore adjustment to the world outside of the classroom. No efforts have been directed toward exploring the social and economic benefits that accrue (1) from participation in ABE, (2) from differential grade level gain in ABE, or (3) from differences in the subject content, such as literacy or prevocational instruction, to which the student is exposed. This is a major omission from research efforts. At this time, it can only be assumed that persistence in class attendance, grade level gain, satisfaction, and other measures of outcome are directly related to the students satisfactory adjustment in the real world. Researchers are guilty of a major error of omission — that of failing to establish the relationship between classroom performance and societal performance. Maybe this concern needs to be explored before too much emphasis is laid on how best to achieve maximum classroom performance on the part of the student.

Process Studies

The process studies reviewed have been partially reported above. They cover a variety of areas; for example, certain aspects of teacher behavior have been studied in the classroom situation. Davis obtained reactions of students to selected aspects of teacher behavior in civil defense classes.[15] He found that acceptance, as reported by the student, during the first class session had a significant influence on retention in the program.

Two studies have been completed that explored some aspect of teacher attributes. Jones reported that the teacher's objective knowledge of subject matter was positively correlated with gain in test scores but was negatively correlated with persistence or retention in the program.[16] He also found that the mental abilities of teachers did not affect either the students satisfaction with his class, his persistence in attendance, or his cognitive or psychomotor gain. Aker, et. al. found that such teacher attributes as sex, prior adult teaching experience, commitment to adult education as a career, and the perception of certain program-related problems was related to students' educational gains and persistence in attendance.[17] Davis also indicated that previous teaching experience of the teacher had no affect on dropout.[18] Newman, in a study of value congruency of teachers and students, is presently exploring the relationship of this congruency to grade level gain.[19]

Two studies explored various structural attributes of the instructional setting. Davis reported that time of day, length of classes, frequency of sessions, and size of class had no effect on dropout.[20] King, in a comparative study of a conference-type class organization (akin to an unstructured group) as compared to a panel-type class (akin to a chain-structured group) found that the structure of the classroom situation affected a specific task the group was assigned to perform and that one's location in the group structure affected satisfaction regarding this task.[21]

Several studies have been conducted comparing instructional materials and techniques. Smith and Geeslin tested the effectiveness of a kit of reading materials they had prepared which covered concerns in the day-to-day life of the disadvantaged population.[22] This kit was compared with traditional education materials. They reported some evidence in favor of the kit. Likewise, Varnado, in comparing adult centered materials and traditional materials in teacher-dominated versus student-centered groups, found a significant difference between traditional materials in a teacher-centered situation and adult materials used in a student-centered way.[23] Unfortunately, neither of these studies was very precise in its descriptions of the experimental and control situations which had been established. Scanland is exploring computer-assisted instruction compared with discussion as a force in affecting attitudes of culturally disadvantaged parents toward childhood education.[24] Mauk is presently conducting a study concerned with reward structure and feedback on grade level advancement.[25]

Three studies were concerned with some of the more basic learning processes of adults. Carpenter studied several variables related to information processing among adults.[26] This study was conducted using as subject the participants in the 1967 Southeast Regional ABE Teacher Training Institute conducted at Florida State University. He found that, in general, performance declined with age. He also noted an incongruence between age, ease of task, and performance. In initial trials, older subjects did not do as well as younger subjects even though the task was relatively less difficult than in later trials. In the later trials, older subjects performed little, if any, below the younger subjects. He speculated that higher initial anxiety interfered with the performance of older subjects more than it did with younger subjects. He also reported a sex difference in performance, with males outscoring females in all tests.

Palmer is conducting a study which is exploring the decoding of various unfamiliar words of several types by adults functioning at different reading levels.[27] This study is concerned with a single physical reaction, eye movement, as the adult attacks and analyzes what he sees. Higgins is studying the interpretation of daily comic strips by undereducated adults in a Florida penitentiary.[28] Her primary concern is how comprehension develops as given materials are read by the student.

Several studies are being conducted that focus upon interaction in the educational setting. Rose and Schroeder and Jahns are analyzing interaction data collected during the 1968 Southeast Regional ABE Teacher Training Institute conducted at Florida State University. Rose is exploring the socialiability of participating teachers and its relationship to interaction in the educational setting.[29] Schroeder and Jahns are analyzing sociometric and satisfaction data and personality and cognitive gain as they relate to interaction.[30] This latter study is proving to be very exciting since it is concerned with the ongoing dynamics of teacher-student interaction and how this affects instructional outcomes.

Blakey, following in the pattern set by Rose, Schroeder and Jahns, is attempting to explore interaction patterns in ABE classrooms and is concerned with the impact of teacher expectations on student success.[31] He is concerned with how the teacher communicates, if at all, the expectancy of success or the expectancy of failure to the student.

Summary Impressions

After reviewing the kinds of research that have been conducted, it would appear that the most exciting questions are being raised only recently — those that are concerned, not with program description or program outcomes, but with those variables that affect these outcomes. Unfortunately, these studies do not generate the global, program-wide answers practitioners need in making day-to-day decisions. The studies do, however, appear to be tackling some of the basic concerns that underlie ABE instruction and are doing this with more rigor and precision than has been the case in the past. It is self-evident that this is only a start. One wonders, after reviewing the research that has been conducted, where the guidelines and principles have come that the practitioner — administrator and teacher alike — uses. Certainly not from previous adult education research.

One also wonders whether or not the academician should be involved in making the value-oriented decisions and global generalization such as are required to conduct in-service education programs, if there is such a void in our empirical knowledge from which to make these generalizations. Maybe the limited number of academicians should be more concerned with ferreting out and exploring more basic questions — not descriptive questions or outcome questions — but questions related to why certain results were attained.

Then too, how much confidence can be placed in the research findings that have been uncovered? It is not likely that one study, conducted on the personality attributes of adult students, for example, can be generalized with much confidence. Neither can much confidence be placed in the value of certain instructional systems over others with the data at hand. There is a need to exercise greater rigor and control in studies, and a need to conduct these better studies under diverse situations before clearer perspective of those variables which influence our instructional programs can be delineated. It would appear that the concern should be with how this best can be done and how to arrange the working relationships between application-oriented educational agencies and research or developmental oriented academicians. Within the limitations imposed by time, money, energy, and other commitments, how can we establish a division of labor so that effective, meaningful research can be conducted so pressing practical concerns can be answered?

NOTES

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2. Dutton, "Adult Basic Education in Hillsborough County."

3. Ibid.; Aker and Jahns, "Seasonal Farm Workers Program."

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8. Greenleigh Associates, *Field Test and Evaluation of Selected Adult Basic Education Systems* (New York: Greenleigh Associates, 1966).

9. David Endwright, "Report to the Director," unpublished (Tallahassee, Fla.: Florida Division of Corrections, 1968).

10. Edward H. Smith and Robert H. Geeslin, *A Pilot Study to Determine the Feasibility of a Packaged Materials Program for Teaching Reading and the General Development Area of Adult Basic Education,* Project no. 6-8675 (Washington, D.C.: U.S. Department of Health, Education and Welfare, 1967.).

11. Aker, Schroeder, and Jahns, *Evaluation of an Adult Basic Education Program.*

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14. George Davis, "A Study of Classroom Factors Related to Drop-outs in Adult Education" (Ph.D. diss., Florida State University, 1963).

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17. Aker, Schroeder, and Jahns, *Evaluation of an Adult Basic Education Program.*

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19. Marjorie Newman, "A Study of the Relationship of Teacher, Teacher Aide, and Student Attitudes, Values, and Perceptions of Students' Problems to the Dropout Rate of Adult Basic Education Students" (Thesis proposal, Florida State University, 1968).

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21. Gordon A. King, "The Relationship of Group Structure, Task Performance and Leadership Recognition Among Adult Basic Education Participants" (Master's thesis, Florida State University, 1967).

22. Smith and Geeslin, *Feasability of a Packaged Materials Program.*

23. Jewel G. Varnado, "The Relationship Between Achievement of Adult Students and Varied Structured Classroom Situations" (Ph.D. diss., Florida State University, 1967.)

24. Worth Scanland, "An Investigation of the Relative Effectiveness of Two Methods of Instruction, Including Computer Assisted Instruction, as a Technique for Changing the Parental Attitudes of Negro Adults" (Thesis proposal, Florida State University, 1968).

25. Warren Mark, "Evaluation of Adult Basic Education Participants in a Federal Correction-

al Institution" (Tallahassee, Fla.: Florida State University, 1969).

26. William L. Carpenter, "The Relationship between Age and Information Processing Capacity and Age and Channel Capacity of Adults" (Ph.D. diss., Florida State University, 1967)

27. Robert Palmer, "A Comparative Analysis of Eye Movements of Adults Who Function at Three Reading Levels while Decoding Isolated Unfamiliar Words (Thesis proposal, Florida State University, 1969)

28. Norman H. Rose, "The Effect of Sociability and Demographic Factors on Group Interaction" (Thesis proposal, Florida State University, 1968); Wayne L. Schroeder and Irwin R. Jahns, *Study of Interrelated Influences of Personality, Sociometric Choice, Satisfaction, and Interaction among ABE Teachers Participating in a Three Week In-Service Training Workship* (Tallahassee, Fla.: Florida State University), forthcoming.

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30. Schroeder and Jahns, *Study of Interrelated Influences.*

31. Millard L. Blakey, "Teachers' Prophecies: Differential Effects on Verbal Interactions with Students" (Thesis proposal, Florida State University, 1969).

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THE STRENGTHS AND WEAKNESSES OF THE ABE PROGRAM

Arthur P. Crabtree

What are the strengths and weaknesses of the present adult basic education program in the United States? The question has a keystone quality that encompasses, perhaps, more of the broad sweep of our concerns in adult basic education than any other. In order to close on a positive note, let us consider weaknesses first.

In my opinion, one of the weaknesses of the present ABE program is the lack of a commonly-accepted purpose, both in its origin and its implementation. Is its basic purpose to train disadvantaged adults for employment? Is it to give them a foundation of literate understanding for improve functioning as citizens, parents, and homemakers? Is it all of these? These questions indicate the avenues of our differences with respect to the primary objectives of the program.

Take a brief look at the historical perspective and the circumstances attending the birth and growth of the latest ABE efforts in the United States. The author was one of a small group which was instrumental in bringing this program to fruition. In 1962 and again in 1963 this group tried to secure passage of federal legislation providing for adult basic education. It was unsuccessful. Each time the forbidding gavel of the Chairman of the House Rules Committee spelled defeat. This gentleman, with a social philosophy somewhere to the right of Louis XIV, identified the bill with the civil rights movement and refused to pass it out of his committee. In 1964 President Johnson presented his dream of the Great Society. Those who had been trying to get the adult basic education legislation through on its own merits went to the sponsors of the Economic Opportunity Act and asked them to incorporate the bill into their legislation. The ABE program was born in Title II-B of that act. In 1966 it was transferred from the Office of Economic Opportunity to the U.S. Office of Education.

The lines of the central philosophic issue in this most recent ABE program can be drawn, at the risk of some simplification, in one pivotal question — is the purpose of the program primarily to teach literacy as a prerequisite for job training or does it have the more comprehensive goal of creating a broad base of general education to undergird the adult's total life responsibilities? This is no mere academic question. Upon its answer depends in large measure the nature of the subject matter used, the selection of the teaching and administrative personnel, the choice of teaching method, and, indeed, the whole tenor of the program.

The program, as it now operates, unduly emphasizes the occupational objective and neglects the broader task of preparing the adult for greater competence as a citizen, parent, and homemaker. The evidence of this emphasis is quite abundant. Indeed, it is understandable. The program was born in a climate that pre-determined its vocational philosophy. One of the major motivations for the Economic Opportunity Act was the mushrooming cost of welfare programs, especially in our large urban areas. The pocketbook nerve of the American taxpayer began to feel the pain. About this time numerous studies found what was already known — that a high correlation existed between a lack of education and a lack of employment. The conclusion was inevitable; train them for jobs and get them off the welfare roles. In the language of the act seven lines in its declaration of purpose are used to set forth its occupational rationale and only one to indicate its responsibility to upgrade the educational level of the adult for his other life needs outside the working world.

A second factor contributing to the occupational emphasis in the program comes from the current civil rights movement. Equality of job opportunity is a vital facet of this struggle. The individual must be vocationally trained before he can make a case for an equal right to the job. That is not to quarrel with occupational education. It would be rather foolish to minimize in the slightest measure the great need for vocational training in today's world. Indeed, with modern technology it is more important than ever.

But the adult is more than a worker. He is a citizen and, in most cases, a parent and a homemaker. He is an individual in search of a richer self-realization. He needs an educational program that prepares him for all of these roles. A manpower crisis is often mentioned as though it exists only in the working world. There was a manpower crisis last November in the polling booths of this country. And there has been such a manpower crisis for more than half a century in this country. With the youth of the nation in open revolt against their elders, there is a manpower crisis in the American home; a crisis that cries out for vision and leadership in meeting the mounting problems of family life. The whole man must be educated, not just his vocational facsimile. Adult educators need the curricular budget, not only in the ABE program but in all adult education. For, as has been observed, it is manhood, not manpower, for which we need to gear our education.

A second weakness of the newest ABE effort is its lack of administrative coordination, expecially at the federal level. The Adult Education Act of 1966 created the President's Advisory Committee on Adult Basic Education, giving it watchdog jurisdiction over all federally-supported programs of adult basic education. The committee's first task was to find out how many federally-supported ABE programs existed. In 1967 Greenleigh Associates contracted to make an inventory.[1] The findings were quite surprising. There are 28 federal programs that have adult basic education components, scattered among ten federal agencies, of which the Office of Education is only one. There is little coordination among these programs. Indeed, there is little understanding of the other fellow's program. Obviously there is unnecessary duplication of effort in this situation. This same lack of coordination exists, in some measure, in the field. There is room for improved cooperative effort at both the state and local levels.

In the first annual report to the President, the committee recommended that it be given sufficient resources to set up more effective machinery for the coordination of all these programs beginning at the federal level.

Finally, in my opinion the greatest potential weakness in the ABE program is the encroaching shadow of nonprofessionalism. The public schools of this nation have become its favorite whipping boy. In searching for the cause of the current social ills that now engulf the nation it is easy to brand the school the scapegoat. It takes the home and the church off the hook of accountability. Since the major program of adult basic education is administered by the public schools, they inherit the attack on the total educational establishment that is now becoming fashionable.

One of the principal spawning grounds for the philosophy of amateurism in recent ABE programs has been the Office of Economic Opportunity. It had its origin in 1964 when Sargent Shriver and his staff decided to set up an educational program without the help of the educational community. The initiation of the ABE program was delayed for almost a year while all the other parts of the Economic Opportunity Act were started.

The line of reasoning advanced by the anti-establishment critics is very simple. It suggests, both overtly and by implication, that the professional certification of teachers as we have known it is a waste of time. It postulates the theory that a high school graduate with a short training course can become a teacher as qualified as the graduate of the traditional college course. This is a line of reasoning peculiarly directed to the field of education. Few would suggest that farmers replace lawyers in courts of law or that truck drivers be recruited to perform brain surgery. One can imagine the reaction of a champion of the nonprofessional in the classroom if his own child were enrolled in a class over which a high school graduate without professional training were installed as the teacher. Yet he is perfectly willing to have the same intellectual mayhem committed on the unfortunates who come to us in the ABE program.

One piece of evidence that has been injected into this controversy over teacher qualifications, and one that is frequently quoted with knowing authority by its advocates, is a study conducted a couple of years ago by the Greenleigh Associates.[2] This piece of research carried on in New York, New Jersey, and California seemed to find that a high school graduate with a short preservice training period can do as good a job as a certified, professionally-trained teacher. The Greenleigh study was loaded with factors that invite questions with respect to both its procedures and its findings. Those certified teachers used in the study were selected at a time of the year when all the good certified teachers had been committed to teaching positions in the schools and that the teachers used, therefore, were conceivably the poorest of the lot in those areas. Nor do those who quote this study explain that all the teachers tested were compelled to use four selected reading systems and were not allowed to depart from this goose-stepping regimen in two of them, even to use any other reading texts or supplementary materials. This is not teaching. This is but the dull manipulation of things. Where was the opportunity for the creativity, the imagination, and the innovation that we all know is so vital to this particular area of adult education?

In a later study in New Jersey, Greenleigh Associates found a situation that compelled them to indulge in a masterpiece of semantic legerdemain on the issue of nonprofessionals. New Jersey has an ABE program under a branch of the state government called the Department of Community Affairs. It uses noncertified teachers, most of them only high school graduates, after about ten days of training. Greenleigh was employed last year to evaluate the program.[3] In its comments throughout the report of this study many statements are made which criticize the teaching effort for lack of professional training. Three such statements, selected at random, follow.

> Observation has indicated that the teaching is largely uninspired, unvarying from day to day. Whether this results from an absolute lack of deviation from the programmed instruction, the lack of adequate class attendance or the rigidity of the teachers themselves is difficult to say. Certainly, there are no sparks flying in the classes and it is difficult to assess teacher input in some classes when the entire relationship seems to be the checking of the programmed text two or three times during the two-hour period. The teachers seem to spend most of their time sitting and waiting.[4]

> Since none of the teachers are really prepared or trained to teach a conversation class in ESL, the lessions that were witnessed were fiascos, a waste of time for the students and an embarrassing situation for the teacher.[5]

> It must be clearly understood that we were not viewing teaching in a traditional creative or innovative sense. The paraprofessionals do not, as a rule, have the general education to stimulate and enrich the learning process, nor do they have the ability to diagnose learning difficulties which students have in their failure to grasp fundamental concepts in language and in mathematics. Often students are seen to guess at answers without knowing what they were reading and accept the corrected version without knowing why it was correct.[6]

Yet, in spite of such criticisms which run throughout the report, pinpointed to the very issue of teacher education, in the summary of the report's findings one finds the following statement, quite at variance with the body of the report.

> It was found that the DOCA (Department of Community Affairs) nonprofessionally trained personnel could be trained successfully to teach various segments of ABE and GED programs.[7]

The proponents of the philosophy which holds that butchers and bakers and candlestick makers can teach the undereducated have coined a phrase — teachers do not need professional training as long as they come from the indigenous population. Apparently it takes a black man to teach a black man, a Jew to teach a Jew, and never under any circumstances should a Methodist teacher be entrusted with a class of Mormons. Why not argue that only an illiterate can teach another illiterate? Then we would really have a teacher who was indigenous to the population.

This line of reasoning is hard to accept. To infer that exposure to the philosophy of a John Dewey or a William H. Kilpatrick does not enrich the understanding of those who undertake the serious business of shaping a human mind does not make sense. It runs counter to experience in this field. The recent program for the undereducated adult calls for the highest level of professional training. The teacher who succeeds must have a knowledge of the psychological characteristics of the disadvantaged learner; he must know the technical aspects of teaching reading and computation; and he must be familiar with those methods, techniques, and approaches that produce the best results. This kind of in-depth preparation cannot be acquired in a short preservice session.

Does traditional preparation in teacher education automatically produce a good teacher? No! There are many certified duds in this field, as there are inept lawyers and incompetent physicians. However, adequate professional preparation will make any teacher a better one and those who go into the classroom without it are not as well prepared as they might become.

It should be made clear, however, that there are many things in connection with classroom operation that paraprofessionals can do to relieve the teacher of his burden. But they should be aides to the teacher and nothing more. Adding the disadvantage of incompetent instruction to the cargo of handicaps already carried by those who come to us for help in this program is unjust.

The movement to widen the entrance of nonprofessionals in adult education raises a fundamental question — is there such a thing as an educational profession? There are many who insist that it does not take any special training to teach another human being; that what is called a body of professional knowledge is actually proliferation of classes in educational psychology, methods, and materials that never were necessary. The opposite view is that we do represent something which qualifies as a valid profession and that it requires certain knowledge and skill to operate at a job-performance level consistent with that of other professions. I shall labor the point no more. The building and maintenance of professional standards is one of the important challenges in the ABE program. If the philosophy of nonprofessional leadership can establish a beachhead, it is not inconceivable that it can spread throughout our entire educational community. If that day should come, the cultural fiber of this nation is in serious trouble.

What is the brighter side of the picture, the strengths of the ABE program? First, ABE in the last five years has accomplished a reasonable measure of what it set out to do, that is, involve a number of people in literacy education that otherwise might not have had that experience. The figures of the U.S. Office of Education indicate that the program has served over a million and a quarter adults since its inception. Naturally, there are some duplications in these figures, but they still represent a major accomplishment. There is an ABE program in every state in the nation, as well as the District of Columbia, Puerto Rico, Guam, and the Virgin Islands. Hundreds of teachers and administrators have had some training. A number of experimental projects have been initiated that have shed some new light on methods and approaches in literacy education. New resources have been enlisted, particularly in higher education, to augment the efforts of those already in the field. New materials and teaching aids have been produced. Thus, while we have made only a beginning in terms of the size of the total task, it has been a good start.

Secondly, this ABE program constitutes one more sale in merchandising the concept of adult, or continuing, education to the American public. This is one of its greatest strengths or perhaps more accurately, its greatest contribution to our social philosphy. There are some blithe optimists who are satisfied with the progress made in this respect. I am not. It was easier to enlist adults in a Works Progress Administration (WPA) program in neighboring Indiana 30 years ago, than it was to enlist them in our adult program in New York State in the 1950's. The United States is still shackled by the philogophy that education is something for children that you "get" when you are young, rather like puberty or the measles. This intellectual straitjacket carried with it the implication that the adult who seeks to acquire added knowledge is either stupid or is trying to make up for something that he should have obtained when a child — that he is socially off-time. Those who genuinely believe that education is a continuous process of life, that serious educational study should run parallel with the total life experience, are in an uncomfortably small minority. The education of the adult is something done after everything else — a P.S. to the main letter. We are so busy educating all the children of all the people, we forget the people. The adult education budget is the last to be added and the first to be cut. When presidents and congressmen speak of educational needs, they refer to the education of children. The literature of the educational establishment is almost entirely child-centered. The idea that the continuing education of the American adult is as vital to the welfare of this nation as is the education of the child has simply not been accepted by our society.

The great contribution which ABE programs have made in the last five years, has been to provide an example of adult education that can be understood and appreciated. The reality of twenty-four million American adults who are functionally illiterate is an educational need that men of reason cannot ignore.

Finally, the crowning strength of the ABE program, in my opinion, lies in its absorbing social significance. The greatest movements of adult education throughout history have been coupled with great societal needs. In Denmark the folk school movement was conceived by Grundtvig to preserve the cultural heritage of that little country from the encroachment of Prussian influence. In England Mansbridge wedded the resources of the universities to the aspirations of the working masses. In Nova Scotia Father Coady turned to a program of adult education to save the farmers and fishermen from economic destitution. These programs of adult education had two things in common — they were conceived in the womb of national crisis and succeeded in revitalizing the society which gave them birth.

The new ABE program resounds to the social needs now engulfing this nation. Its purpose dwarfs the values of conventional forms of education. It is linked with the reclamation of those thirty-four million Americans who now live below the poverty level. It is fused with a great adventure in human salvage.

In summary, this paper has discussed three

weaknesses of the current ABE effort — the overemphasis on the occupational objective, the lack of administrative coordination, and the growth of nonprofessionalism — and three strengths of the current ABE program — the good beginning, the influence on public thinking toward continuing education for all adults, and the positive social contribution of the programs.

NOTES

1. Greenleigh Associates, *Inventory of Federally Supported Adult Education Programs:* A Report to the President's National Advisory Committee on Adult Basic Education. (New York: Greenleigh Associates, 1968).

2. Greenleigh Associates, *Field Test and Evaluation of Selected Adult Basic Education Systems.* (New York: Greenleigh Associates, 1966).

3. Greenleigh Associates, *Adult Basic Education in New Jersey: An Evaluation of Selected Programs of the State Departments of Education and Community Affairs.* (New York: Greenleigh Associates, 1969).

4. *Ibid.*, p. 58.

5. *Ibid.*, p. 60.

6. *Ibid.*, p. 88.

7. *Ibid.*, p. 16.

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Theory and Practice

THE IMPROVEMENT OF TEACHER TRAINING IN ADULT BASIC EDUCATION: A PROJECTIVE APPRAISAL

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and

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The improvement of adult basic education programs through the vehicle of improved preservice, induction, inservice, and continuing education of teachers requires a sound knowledge base and an efficient administrative structure. The purpose of this chaper is to review the major ideas and problem areas in adult basic education teacher training as they have been presented in the preceding chapters and in the discussions of the work groups which dealt with these issues during the Workshop to Increase and to Improve University Teacher Training in Adult Basic Education.

THE NATURE OF THE WORKSHOP

The intent of the workshop was to define the state of the research in Adult Basic Education (ABE) teacher training and to explore its implications for future action with those having leadership responsibilities in these areas. Eighty-six participants from all parts of the United States deliberated over a ten day period on the papers included in this book. Field trips and demonstrations provided common experiences to discuss research in context with practical considerations. Small work groups, supplemented with resource personnel, set their own agendas and made recommendations for future research and action programs in the teacher training arena.

There were four distinct groups of participants: 55 per cent were university faculty representing institutions involved or interested in developing teacher training in adult education; 36 per cent were equally distributed in the administrator and governmental personnel categories; the remaining 9 per cent were graduate students who had a special interest in adult basic education. The viewpoints of individuals representing various interests were often diverse: long range planning vs. immediate needs; formal preservice training strategies vs. more informal inservice activities; training priorities directed toward highly skilled professional personnel vs. those directed toward paparaprofessional or supportive personnel; and the relative importance assigned to basic theoretical research and practical action. These contrasting opinions, the arguments on which they were based and any conclusions which were made are presented in terms of central issues which developed within the workshop.

DEFINITION OF ABE

Griffith, in his overview of the need for ABE, stimulated discussion on the definition of ABE; terms such as educationally disadvantaged adult, functionally-illiterate, illiterate, and under educated adult are often used indiscriminately. If ABE is defined as the training which is required to prepare a person to survive legally in a modern technological society, then years of schooling is not useful as a criterion measure. Definitions of ABE have implications for objectives, and objectives in ABE are found in a political context. Is ABE seen primarily as a vehicle for moving individuals from welfare roles or does ABE encompass a broader set of objectives in which its priority of various goals might be developed in terms of the individual's perceived needs?

The following three part definition is proposed for adult basic education: ABE is education that results in the acquisition of communication and computational skills equivalent to that which is considered adequate for one who has completed twelve years of formal schooling; focuses on developing skills as citizens, consumers, and participants in the family; and contributes to improving the quality of the life style of the students. This broader definition places a stronger emphasis on the development of an individual's capacity in all areas of life rather than focusing exclusively on grade level of achievement or on job preparation.

Another approach to the defining of ABE was articulated by Droege and Karlsen in their discussions of testing and measurement. Testing devices which are designed to measure a number of adult cognitive and personality dimensions sensitively and simply at a basic level, and for which there are norms on sub-populations are badly needed if the effectiveness of recruitment, counseling, placement, and achievement assessment is to be increased. Although progress has been made in this area, existing instruments are not adequate in several ways: low ceilings on achievement tests, unfamiliar content bias, and the use of grade levels as benchmarks which may neither be ordinal nor appropriate to conceptualizing adult problems.

The operational definition of ABE will lack precision until these deficiencies are remedied.

THE RELATIONSHIP OF ABE TO ADULT EDUCATION IN TEACHER TRAINING

Should teacher training programs in ABE be organized as a sub-specialty in the field of adult education or as a specialized core curriculum in its own right?

ABE teacher training as an institutional enterprise was presented by Neff as a variant of the general field of adult education. Research papers by Jahns, Ryan, Botwinick, Monge and Brown were applicable to all areas of adult education. An alternative view is that teacher training in ABE should be narrowly prescribed in content and in structure. The basis of this claim for treatment as a unique field could be based on several approaches: the constellation of circumstances which are particular to the ABE student; the more highly diversified settings in which ABE is taught, often attached to other programs; and the more highly differentiated educational outcomes expected from ABE programs. Data from Haddad, Scharles, and Robinson emphasizing the differences between the poor and other adults supported this viewpoint. Data presented by McFann, Gregory, and Lehmann emphasized ABE as found in connection with other agencies. Crabtree, Robinson, and Blum emphasized differential educational outcomes. The specific problems of sub-populations within the ABE target population is also evidence for this particularistic approach. Cardenas emphasized cultural differences which must be accounted for in the Spanish population; Brazziel introduced the problems of white racism for the black population. Compelling arguments about the special problems of racism which affect the entire ABE enterprise can also be made in support of this position, since a disproportionate share of the potential students are non-white.

The importance of work in our society is assumed. Whether this importance can be traced to a value position or as inherent and basic to the meaning of life, may not be as important as the fact that work is considered to be important. What are the consequences in a society in which a large number of citizens are not engaged in productive work? It would appear to be extremely important to examine any societal mechanisms which resulted in people not being able to work because prerequisite knowledge, attitudes, and skills were inadequate, or because discriminatory practices existed which excluded them from acquiring work and/or job mobility, or if there appeared to be a ceiling on the number of available jobs within the society which required a low level of training.

In the 1967 amendments to the social security legislation a work incentive (WIN) program was conceived to enable the able-bodied educable fathers in families receiving welfare to increase their ability to qualify for employment. This would provide their families with a higher income than that provided by public welfare. In a number of states the rate at which assistance benefits to a family are reduced as its income from other sources increases is equal to 100 per cent. In such cases the policy provides a disincentive to parents who might be inclined to pursue education and seek employment if it meant they could improve their income. Perhaps professional educators do not perceive their function as one of questioning the assumptions behind the reality which encompasses the audience they serve; or perhaps the pressures of providing the educational system causes the educator to accept the realities of the present situation as given. Whatever the reason, the consequences of the meaning of work, the potential number of low skilled jobs, and the practical constraints imposed by discrimination are generally not explicitly discussed in terms of teacher training. Professors of adult education tend to see teacher training in ABE within the broad framework of adult education. This perception most likely results from the fact that the university traditionally prepares students for career lines which presently exist and there have been few career positions in ABE until recently.

To interest universities in developing and supporting teacher training programs in adult education it has been more practical for professors to see teacher training in ABE as a sub-specialty of the larger field rather than as a discrete entity. Given the present shortage of personnel at all levels in adult basic education it appears that the wisest use of limited university resources would lie in the development of training programs for researchers, teacher trainers and master teachers who would provide expertise at the highest level of competency. The fullest development of all areas of concern in adult basic education using the widest possible range of resources requires the building of alliances with other university departments such as economics, sociology, psychology and human development which could contribute to the knowledge of adult basic education; information from these fields could be applied to the wider field of adult education as well.

There was some discussion of alternate procedures which would provide the specialized teacher training for ABE. Government funded programs supporting professors and students in credit program was one approach. An increase in the number of federally supported program specialists who could have part-time professional duties and act as a resource person for a designated area was another suggestion. A consortium of universities which would share the services of a professor prepared as an ABE specialist was still another suggestion. The Education Professions Development Act was also seen as a potential source for funding teacher training in ABE, but one which had not yet been fully explored.

The judicious use of internships and specialized courses related to ABE was discussed as a way of preparing ABE teachers or administrators within a general program. Participants were generally unaware of existing programs utilizing these concepts, which have been developed in the past for personnel involved in literacy education, such as that of the Baylor Literacy Training Center.

At the present time there appears to be little coordination and communication among those in the leadership of ABE teacher training. Neff indicated that three distinct approaches to developing personnel in adult education can be distinguished which have few connecting links. In considering curriculum components and designing a number of approaches to the specialized needs in ABE, in the future it would appear to be irresponsible behavior on the part of adult education professors to ignore this isolationism and to fail to develop integrative and communication linkages. The fact that twenty out of some thirty-five institutions with adult education graduate programs were represented at this workshop was a promising sign. However, if adult education follows the pattern of some other professions, it may be necessary for an outside agent to initiate the coordination within the profession. This role conceivably might be taken by State Directors of Adult Education but they would first have to become more knowledgeable about the existing training opportunities.

CURRICULUM FOR TEACHER TRAINING WORKSHOPS

In general it was agreed that short term teacher training workshops and other in-service activities were necessary to increase proficiency among ABE personnel. There appeared to be a general movement away from what were viewed as once prevalent opinions among ABE leaders that curriculum could be reduced to a single approach and a standardized ABE curriculum developed. This earlier viewpoint tended towards an over-simplification of problems inherent in ABE, produced instant experts who were doctrinaire in their assertions, often causing teachers to develop false assurance, and an emphasis on gadgetry. Heavy criticism was levied towards the violation of principles of adult education whereby teachers are lectured to rather than involved in discussions with resource personnel in teacher training programs. Also it was noted that papers which have been published from a number of such workshops indicate that many resource specialists are only minimally acquainted with the literature of ABE if their footnotes and references are valid criteria for judging their knowledge in this area.

The approaches which might be utilized in future ABE workshops coalesced around either an emphasis on substantive material or on process. The extreme positions suggested defining teacher training as emphasizing the complex interaction which occurs in the classroom with the presentation of research data which illuminated this interaction or emphasizing the sensitizing of teachers to the student through sensitivity training, inquiry training, and interaction analysis techniques.

The arguments presented for and against various approaches were based almost entirely on experience and intuition. Contemporary evaluations of teacher training activity in broader based pre-service preparation have not produced any appreciable amount of quantified data; comparative evaluative data between institutions are either non-existent or unpublished. The teacher training workshops, though centralized through and evaluated by the Office of Education, have produced little conclusive evidence which might serve as a basis for improving the quality of future training programs. An interesting contradiction became apparent between philosophy and program implementation. The more narrowly prescribed base for teacher training (i.e. specific to ABE rather than to adult education generally) was subscribed to by many workshop participants, 80 per cent of whom had been actively involved in designing previous teacher training workshops. An analysis of the content of workshops prior to 1968 indicates that few references to research were included to alert teachers to these specific differences among ABE sub-populations. The substantive approach to teacher training was given a lower priority than the more eclectic practical considerations of how to function on a day to day basis in the existing situation. If this problem can be generalized to the field of ABE, it is apparent that practitioners' avowed philosophical orientations to the structure of teacher training is not clearly linked with existing practices.

THE CONTENT OF TEACHER TRAINING

Student. Information about the student which had implications for teacher training came from a number of sources. Botwinick, Monge and Gardner, presenting information from a human development perspective, provided important insights which, for the participants, had implications for testing, pacing the class, and dealing with attitudinal set. The main criticism of these data rested on the fact that the populations involved in these experiments were not in the ABE population and therefore generalization to this population must be guarded.

Gregory dealt with the information an ABE teacher might need to understand the economic motivations of their students. Although he cited a considerable number of reports which concluded that positive results were obtained in job retention and job mobility when ABE was combined with vocational training, the empirical evidence to support this conclusion unreservedly was lacking. It was pointed out by Gregory that the educationally disadvantaged adult could be misused. It was felt that in some cases the overemphasis on economic motivations in education might encourage administrators and teachers to focus their programs exclusively on narrow educational outcomes which were succsssful in removing an individual from the welfare rolls. Robinson had indicated that in Cook County only 4 per cent of the individuals receiving public assistance were available for employment and many participants indicated that there was a danger in linking educational outcomes too strongly to occupational mobility or employment. If the greater proportion of the people on public assistance are not employable because of factors other than education, it would be possible to ignore a large number of adults needing education as a way of improving non-economic aspects of their lives. Some participants felt that motivation had been dealt with too superficially and indicated that the whole area of self concept (both of teacher and student) should be considered in understanding motivation. Although Gregory only purported to discuss motivation from an economic or job-related viewpoint, some participants reacted to the implicit assumptions that in too many cases ABE is linked with a social goal of making individuals economically independent. For them this placed pressure on curriculum construction which assigned a lower priority to more diverse educational outcomes, i.e., consumer education, family and personal development, and citizenship education.

In terms of economic outcomes, there is perhaps too much reliance on education as a panacea for curing social problems which have their roots in many institutional structures of American society, i.e., economic growth, social stratification, structural unemployment, urban concentration, as well as the personal ability limitation of some ABE students. Robinson's approach, perhaps quite realistically and certainly pragmatically, was purely economic for a number of ABE students: provide more low level ability jobs with higher pay. This solution assumes that there are a number of jobs which require little formal training and do not presently pay enough to make the worker economically independent. It also assumes that a life time of routine work is acceptable to many individuals, if remuneration is high enough; this assumption is one which many educators have difficulty in accepting.

Scharles' data were presented with the underlying assumption that education, not economics, was the basis to a solution. The arguments around these issues were never clearly defined. Scharles' paper stimulated discussion along two lines: (1) how could economic incentives be used to motivate students and provide career lines into the major society, and (2) how could more information on the economic implications of ABE be obtained and used by administrators to justify their programs. The necessity of developing career ladders and articulation between educational programs and higher level employment opportunities was regarded as most essential by virtually all of the conferees. The use of teacher aids, recruiters, assistant teachers, paraprofessional technicians, teachers and counselors were seen as viable ways of upgrading the poor. It was assumed that incentive to work depended on the promotion of the worker to a more responsible job and that most workers are seeking upward mobility, an assumption which educators often take as implicitly true of most people but which lacks empirical support for the undereducated population.

In these discussions the implications for teacher training were assumed to be minor, that is to say, discussion was not concentrated on the effects such variables would have on the job of the teacher. In curriculum outlines submitted by two work groups, there was no evidence that the career ladders concept within the profession was seen as affecting the teacher training curriculum. Career ladders were seen rather in terms of their effect on external conditions: certification and teacher unions. In terms of the reports and discussion the posture of most participants appeared to be oriented to internal problems of teacher training programs rather than external problems. A more critical stance might suggest that the participants, like many others in developing professions, turned inward for group support and demonstrated an apparent reluctance to see the field of ABE in perspective to the larger social situation.

Culture of Poverty. How does one define poverty and how does one view the poor in the larger social situation? Haddad and Blum directed their attention to the philosophical question of the culture of poverty; does it exist; if not, what are alternative positions in explaining behaviors of the poor, and what implications does one's view on this question have on his approach to ABE?

The data from the small groups indicate that these questions were difficult for the participants to handle. For some participants the issue was academic; for others it was not basic. More important for the participants were the practical considerations such as: how does one take into account the ABE students' special problems in designing a program? What are the qualities which are prerequisite for the ABE teacher? And how can one sensitize teachers to the environmental influences which their students cope with daily? These questions were discussed throughout the conference. Despite the educational background of the participants, a continuing problem in the discussions was the propensity to stereotype the poor. Perhaps the unwarranted emphasis on the culture of poverty concept has served to oversimplify the dimensions of the special needs of the ABE student rather than to encourage the concentration of attention on meeting the individual needs of a wide variety of students.

Assumptions underlying the culture of poverty, have implications for every aspect of the ABE enterprise; teacher recruitment, program development, curriculum, materials, counseling, and financing are particularly affected. Since much of the research on ABE students has relied on grouped statistical data while data on the richness and highly integrated cultural components of various ABE sub-populations has not been readily available, the consequences which logically flow from one's assumptions about the poor have not been apparent. For example, if one assumes that there is a social disorganization associated with poverty, i.e. stressing a breakdown in the nuclear family, illegitimacy, and high crime rates, as cultural norms for the poor, one overlooks an alternative hypothesis: fathers are absent from the home because of external social pressures and other males are available in the extended family to provide father figures; high illegitimacy rates among the poor may be the result of poor reporting of illegitimacy rates among the non-poor, or a result of abortions being available on a class basis, or that children by common-law marriages are incorrectly counted as illegitimate; high crime rates among the poor are accentuated because crime is defined differentially according to social class and because some crimes in middle or upper class society are cared for informally, without booking, and are therefore never reported. Educators' assumptions implicitly affect curriculum development, teacher expectations, teacher attitudes, and teacher-student interaction. Social scientists who use anthropological terms loosely, and politicans, who utilize a concept without carefully thinking through its implications, may have done a disservice to those practitioners who have accepted the notion of a culture of poverty on faith.

The arguments for the emphasis on the ABE student as an adult who happens to be poor were found in the general approach of the research reported by Botwinick, Monge, Otto, Blum and Brown. The emphasis is these papers were clearly on adulthood not poverty.

There was general agreement that more needed to be done about the training of teachers to relate to the ABE student, that more needed to be known about the interaction of student, teacher, classroom climate, and social milieu in ABE (points emphasized by Blum, Griffith, and Jahns) but whether the special problems of the educationally disadvantaged population had their origins in social stratification or a culture of poverty and the practical consequences which develop from two viewpoints, on this, there was no agreement.

Cultural Values of the ABE Student. There was general agreement that personnel responsible for teacher training in ABE must become aware of and take cognizance of differential values found in sub-populations. Brazziel raised the issue of racism and its effects on the suppression of alternate life styles of minority groups; these problems were reflected to some extent in the group reports but the emphasis was more on the recognition of differential life styles rather than on the effects of racism, reflecting the general predisposition of the conferees to deal with internal rather than external constraints.

The importance of cultural values was also raised by those participants working specifically with Appalachian whites, Indian and Spanish speaking populations. Cardenas initiated discussion of the problems of Spanish speaking students. Nichol's film on teaching English as a second language also emphasized differential cultural values. Should such teaching be approached through bilingual instruction? Are cultural values so linguistically based that it would be easier for the student to develop his literacy first in his own language? What values are represented in commercially prepared materials which may mitigate against the student learning the language because the values inherent in the content are alien to him? Unfortunately the paucity of research data leaves these questions unanswered.

The Teacher. Ryan's paper and film on micro-teaching as well as Nichol's paper on the video tape recorder (VTR) introduced the issues of methodology in teacher training. There appeared to be no dispute about or stated opinions concerning the assumptions behind these methodologies and what implications methodology in teacher training had for teacher behavior in the ABE classroom. Although VTR appears to be used extensively and micro teaching is increasingly being utilized in teacher training institutes, the empirical basis for asserting its apparent effectiveness in teacher training has not been demonstrated. Regardless of this fact, it was generally concluded that there was logical justification for the inclusion of these techniques for teacher training programs, based on the premise that the camera and microphone provide new feed-back mechanisms to the student, which have not previously been available. Non-verbal behavior, much of which may be expressed unconsciously is a part of a teacher's style and resulting teacher-student interaction. Teachers rarely, if at all, have the opportunity of viewing their own non-verbal behavior; VTR provides that opportunity.

In terms of the special problems of the poor, discussions about teacher qualifications and teacher training internships were the foci of participant interest. In the opinion of some, the qualifications of the ABE teacher beyond subject matter competence resided in personality variables: warmth, friendliness, understanding, relating well to the educationally disadvantaged. Others saw the problem not in the recruitment component but as a training problem. In these discussions two divergent positions developed: one espoused the importance of internships and sensitivity training; the other reflected objective training in adult perspectives based on the available research. The former position saw the focus of teacher training in sensitizing the teacher to the conditions of poverty,- the latter saw the focus on the student as an adult who happened to be poor. These positions were not always sharply defined and much overlapping of ideas emerged from the discussion. Those proposing the sensitizing position agreed with the arguments presented by Haddad, Scharles, Robinson and Cardenas who emphasized the statistical or observed differences found among the poor. Since the group felt that many teachers were somewhat naive in their comprehension of behavior related to poverty conditions, the apparent remedy for the situation is to incorporate sensitizing elements within the training curriculum or in-service programs. Sensitivity was never defined operationally, however, and no data were presented to show that teachers who had been trained in sensitivity groups became more effective teachers as a result.

Jahns stimulated the discussion of the effect of teacher attributes and educational preparation on classroom climate. Several viewpoints were discussed based on the experience of observing ABE teachers at work. One viewpoint was that teacher style could be modified to make it more flexible, democratic, and participatory in nature by means of in-service programs: the use of a master-teacher who had day-to-day contact with less experienced teachers (supported on the grounds that behavioral changes were best accomplished by demonstration in concrete experiences), or the use of inter-agency visitation was also suggested as a means of alerting teachers to alternatives in classroom management; a viewpoint supported on the grounds that the teacher was less threatened when not in his own classroom and alternative teaching styles were seen in context. Another viewpoint was based on the assumption that there was no particular value which could be attached to one type of teaching over another. Rather, the question was in the most effective use of the teacher's style (by matching style with other variables such as student personality, subject matter, situational factors) in producing educational outcomes which included the student in some meaningful way in taking responsibility for his own learning.

No conclusions were drawn from this discussion except for agreement that conceptual models might be useful in interpreting data on the interaction effects of teacher preparation and teaching style with other classroom variables. The importance which was attached to developing research which dealt with the complex interactions of a number of variables was demonstrated by one group which committed their final report to the developing of a theoretical construct in which ABE research could be designed. This design, based on the recommendations of Griffith, Blum, and Jahns, took full recognition of the interrelated variables of classroom interaction (student, teacher, materials, method, classroom climate, and environmental factors), placed the research presented at the workshop within this construct, made recommendations and assigned priorities for future research, and placed all of this information into interaction matrices to demonstrate their interrrelatedness. In this group a high priority was assigned to psychological variables within both the student and teacher especially in the area of self-concept. Although research on this variable had been limited to the alienation study reported by Jahns, for this group, it was intuitively a central issue in teacher attributes.

Materials. There appeared to be a new age of maturity in the field of ABE concerning commercially prepared materials, i.e., an appreciation that material, in itself, is not a highly significant variable in producing differential learning outcomes. Steuart reported no significant differences in learning outcomes in comparing two commercial sets of materials; his results corroborated the results of the Greenleigh study of four commercially prepared curriculums in which no significant differences in learning outcomes attributable to the materials was found in a national sample of ABE students. There was no discussion recorded on the question, what is the best curriculum materials for ABE? Instead, discussion on curriculum materials was influenced by the Brown and Otto papers. Brown's report on subject matter interests of adults was accepted as being highly relevant; it was felt this line of research should be extended to adult interests among various sub-groupings within the ABE population. But of even greater importance from a research standpoint is the need to demonstrate empirically the assumed increase in student achievement resulting from the use of instructional materials of high reader interest. Otto, by emphasizing what is known about reading and the context within which adults appear to learn, best synthesized this information into a rationale for reading instruction. This rationale, along with Otto's specific recommendation that there should be emphasis on supplemental high interest materials of low reading difficulty, provided a base for participants to suggest further research needs in this area.

Interestingly enough the discussion of cultural values so strongly espoused by most participants in the general discussion of the ABE student and teacher were not considered specifically in terms of the development of culturally biased materials. The ideas concerning cultural value and its implications for materials may develop more specifically in terms of commercial materials at a later point; presently leaders in the field of ABE seem satisfied with teacher and student prepared materials in this area.

Methods. Ast and Mangano introduced the idea of individualized instruction. Participants felt that more attention should be paid to developing innovative approaches to individualized instruction such as the learning lab and computer assisted instruction. Since no evaluative data were presented as to the conditions under which these approaches were most effective, with which students and at what level of learning, the participants defined a number of research topics needing evaluative and empirical study. The use of fewer and more modest demonstration projects which had more emphasis on research components specifying conditions, populations, and results, and which also compared innovations to existing situations, and allow for the research to be utilized more fully, would facilitate the advancement of knowledge because of the additive properties of the data.

The question was raised as to the implications for teacher training that educational innovations engender. Ast indicated that the learning center instructor was a key figure in designing the individualized approach to learning and had further indicated that this approach was unique and not found in traditional classrooms; how then were teachers trained for such a role as this? Ast's answer was through in-service and pre-service training but content was not specified. McFann also specified strategies which would account for individual differences and presented convincing evidence for designing more flexible learning situations to maximize learning outcomes. The discussion of this issue indicated that little was known about how various means of individualized instruction with adults compared with one another or with traditional groupings of students.

THE DISSEMINATION OF RESEARCH

The dissemination of information and research in ABE is not adequately systematized. Cortright discussed the problems of dissemination from the point of view of an administrator of a public school adult education program; the adult education resources information center at Syracuse was not represented. The USOE came under criticism since it was felt by many that information on workshops and demonstration projects was not easily accessible. Nichols had reported the work of USOE in establishing the Southwest regional laboratory but again there was no clear mechanism for reporting research findings. Some felt that ABE information was so scattered in the Educational Resources Information Center (ERIC) system that improving accessibility will continue to be a problem. Presently an individual seeking information in the area of ABE might potentially contact the ERIC centers at Syracuse (adult education), Ohio State (vocational education), Indiana University (reading), the National Adult Education Clearinghouse of the National Education Association, Southwestern Cooperative Educational Laboratory, the Center for Adult Basic Education, Evaluation and Learning and the Appalachian Adult Basic Education Demonstration Center.

There was a reluctant recognition that practitioners and leaders in ABE often do not attempt to search out research findings and appeared to prefer instead to develop programs from practical experience or from verbal exchange of ideas.

Recommendations from the conferences on dissemination of information and research included: the publishing of an ABE yearbook, developing an ABE Journal of Research, requiring all program evaluations and research findings be made available to the state library system and the use of annotated bibliographical lists distributed annually. These suggestions appear to have been made without fully recognizing the under-utilization of dissemination mechanisms already available. Presently there does not appear to be an abundance of ABE research available for publishing in *Adult Education,* the quarterly professional journal of the Adult Education Association of the U.S.A. The annotated bibliographies require professional personnel to monitor and evaluate available documents; thus far ABE bibliographies do not appear to have had such rigorous assessment and therefore are of limited value.

On a broader scale it was recommended that USOE, ERIC, and NAPSAE coordinate their efforts to develop a more efficient system of dissemination including the provision of a system for providing connective links within the dissemination system. A Canadian clearinghouse now being developed could also be included. It was pointed out that many practitioners in adult basic education are unable to analyze research reporta and therefore a screening device is needed to assess the quality of research and to disseminate findings selectively. The conferees felt that the practice of the editor of *Adult Education* in using a panel of readers to assess the value of all articles submitted for publication was an excellent one. Nevertheless, this practice does little to deal with the problem of assessing the quality of the flood of research reports which find their way into the literature.

Another possibility for improving the dissemination of available information would be the development of better linkages with the International Reading Association (IRA). The efforts of Joseph Mangano and his associates in bringing together members of IRA, NAPSAE and the Council of State Directors is a beginning, but presently, for most ABE personnel, the work of the IRA is unknown.

AN ASSESSMENT OF THE PROBLEM

A critical analysis of data generated from the workshop led to the placement of problems related to teacher training in ABE under six central issues. To place these six issues into a meaningful context the state of the art in ABE teacher training will be viewed in its historical perspective.

Historically the ABE enterprise has not been an established institutional arrangement in our society; rather, it emerges periodically as a priority endeavor in times of stress, often in the context of a crash program. The unstable nature of the ABE enterprise has far reaching effects in virtually every area it subsumes: professional personnel tend to not view work in ABE as a life long major commitment; research activity basic to the development of the enterprise waxes and wanes with the emergence and decline of the activity as an institutional priority; professional training programs are developed as ancillary in-service activities and the development of formalized pre-service training programs is slow and arduous; educational outcomes tend to be narrowly defined and are highly related to the political situation in which ABE is seen as important. The urgency of the 60's to attack functional illiteracy is not unrelated to the critical importance of illiteracy at the height of World War II, or the emergency measures to attack illiteracy in the 30's at the height of the depression, or in the crucial importance of eliminating the culture-gap among recent immigrants and the native born in the early years of the 20th Century. Against this backdrop the following central issues can be interpreted as consequences rather than aberations which are related to the political context in which ABE is found.

1. In-service educational programs for teachers in ABE are fragmentary in nature, unevenly distributed nationally, and with content which is uneven in quality. Incentive or motivational components for continuing professional education are lacking to induce moonlighting professionals into furthering their academic preparation in adult education.
2. Pre-service educational programs are developing in an uncoordinated fashion emerging within varying contexts and highly divergent in curriculum; connecting links between program approaches are minimal. Three pre-service approaches can be identified: graduate programs in adult education; graduate programs in linguistics and information transmittal; and the more amorphous, recently developed ABE short term training programs which have emerged within the last five years. These three educational approaches, up to now, have operated in relative isolation, preventing the cross-fertilization of developments among a common cadre of teacher-trainers thus perpetuating inefficiency.
3. The subject matter for teacher training in ABE is currently based more on what is thought or felt than on what has been demonstrated empirically.
   a. Research on the teaching-learning situation in ABE is characterized by evaluative and descriptive studies; empirical studies, specific to ABE, are often developed within an inadequate theoretical framework with variables which lack rigorous definition and with simple two-variable, one-way causal relationships posited. Many of the correlational studies are based on post-hoc analyses and rigorous experimental research is almost non-existent. Empirical research from allied fields, significant to ABE, is not presently being utilized to any appreciable extent as a basis for teacher training.
   b. Since much ambiguity surrounds the conceptualization of multiple educational outcomes and the priorities attached to any one outcome, a clear definition of requisite teacher competencies is not available. This situation leads to a lack of focus on teacher-training programs, objectives, and specified outcomes which lend themselves to rigorous evaluation.
   c. The lack of a clearly defined set of philosophical positions related to ABE has developed seemingly from a stereotyping of the poor. Sub-populations in the target audience with differential value orientations or life styles have not been adequately identified. This approach has led to a simplistic analysis of student characteristics which, when generalized to the target population, has implications for methods, materials curriculum, supportive services, and

institutional arrangements. This approach has mitigated against the development of more efficient and effective evaluations of results in ABE programs and in turn to a less specialized approach in teacher training.

4. The ABE enterprise has not stressed the differential components inherent in the needs of ABE students and in the more diverse institutional settings in which it is found in order to develop its own unique model for the delivery of ABE to its intended audience. ABE students come to the educational process under some of the most unique and diverse situations in the entire field of education. The target population is not small; assumptions underlying the ABE process are more extreme if not unique to other adult education efforts. The only effort to conceptualize this enterprise nationally was carried out by Management Technology, Inc.: their effort has not been publicly evaluated nor has there been any serious attempt at implementing its recommendations. Some criticism has been leveled at this report challenging the assumptions under which the proposed design was developed. The propensity to imitate well established educational systems tends to reinforce teachers recruited from those systems in behaviors appropriate to youth education rather than to the unique nature of the ABE enterprise.
5. The political implications inherent in all educational institutional arrangements are particularly germane to ABE. The uncertainties and tenuous arrangements which proceed from these political considerations tend to force leaders in ABE to overemphasize the impact of ABE as a solution for complex social problems, to mitigate against the setting of more realistic and limited educational goals, and to adjust their opinions of the relative worth of diverse educational outcomes.
6. There is a lack of a comprehensive conceptualization of research needs in ABE which is basic to the sensitive allottment of funds to stimulate research activity in a priority system based on a logical and rational ordering of needs.

THE ORDERING OF RESEARCH NEEDS

A rational ordering of research needs requires an objectivity and perspective often lacking among practitioners who must deal with day to day operating problems. Objectivity and perspective are required to see the larger problem rather than the apparently unrelated multiple manifestations of that problem.

Before one can deal with specific research needs in teacher training for ABE, several prior questions must be asked. These questions must be approached with a critical analysis, guarding against implicit assumptions which have been so codified that it may appear that answers have already been found. Some of these questions which policy makers at the national level must ask as they plan programs are: What is the functional definition of literacy in a modern technological society? For what purposes is literacy considered necessary? Why are adults not literate in a society that has a universal educational system? What political, social, and economic forces are operating to perpetuate illiteracy? What political social and economic forces are operating to eradicate literacy? What is the historical perspective of literacy problems in a modern technological society? What is the potential contribution literacy programs alone can be expected to make?

Answers to these questions are required if one is to deal with a definition of the problem and to think through the assumptions under which educational activity can reasonably be expected to operate effectively.

One could argue that illiteracy is extremely functional to American society. Illiteracy insures society of a pool of marginal workers who can be called upon in times of full economy to fill menial but necessary jobs; illiteracy can also be argued as functional in that it provides a society with unsophisticated consumers who rapidly put all of their income back into circulation maintaining a demand for consumer goods and insuring the circulation of money. One could argue that illiteracy is functional to American society in that it provides a population of citizens who remain at the bottom of and create a base for a stratified society. Other societies have found illiteracy functional in that a highly literate educated populace makes strong demands on its society, asserting itself in ways which may be troublesome to those in authority. Moynihan's analysis of "maximum feasible misunderstanding" is such an analysis of the OEO programs. Most Americans, by the very nature of the national ethos, would find these conceptualizations of literacy programs unacceptable. It is more in keeping with the traditional values of our society to see illiteracy and its partner poverty, as being linked to inadequacies within the individual rather than natural consequences of basic assumptions under which the society operates.

In historical perspective it can be demonstrated that educational opportunities are linked to economic needs, social stratification and political activity. It would appear naive for those conceptualizing the problem of ABE to be unaware of these historical developments. Americans ultimately approve of literacy programs, often conceiving of education as a panacea for solving the most complex social problems. Educators, in the same spirit, often uncritically accept unrealistic goals as educational objectives, therefore becoming willing victims of unnecessary frustration when educational programs appear dysfunctional in reaching impossible goals. Will teaching a person to read and write insure that individual a job? Will a standardized academic curriculum have as an outcome an informed citizen? A parent capable of providing a healthy environment in which children can grow up? Does literacy insure an individual against prejudice or discrimination related either to race, class or ethnic origin? Basic education programs and programers might profitably espouse more humble objectives. Educational outcomes must be specific, realistic, and in many people's opinion congruent with specific interests and the needs of specific populations, who face specific life problems if they are to be successful.

Another assumption which is bothersome in ABE is that nearly everything useful to know about the target audiences is already known. It has been easy to generalize on gross statistical summaries and come to conclusions about the functional illiterate which may describe few, if any, individuals within the target group to be educated. It would, therefore, seem imperative for researchers in ABE to define literacy operationally, to spell out alternate educational strategies specifically with reasonable and specific educational outcomes, and to define subgroups of functional illiterates for which these programs are specifically designed. This highly specific carefully defined program would be a welcome approach to many administrators, teachers and students who now feel caught in an amorphous situation, armed with curricular materials and philosophies which for many appear full of major conflicting elements.

Once the problem has been defined and educational outcomes are specified, priority research needs can be identified more readily.

If gainful employment is an educational outcome for one type of ABE program, then problems related to the best combination of student-teacher recruitment, counseling, curriculum, teaching methods, and institutional base can be specifically studied. Various combinations of inputs on each variable could be specified and empirically tested in carefully designed research plans. The same situation would be true for educational outcomes such as citizenship training, family living, consumer education, and liberal education. Again the necessity of discarding unsound implicit assumptions must be recognized. Is literacy a requirement for all employment? What level of literacy is warranted for specific outcomes? Adequate preparation to function in specific areas of society needs to be carefully appraised. In some cases it must surely be wiser to modify employment educational prerequisites than to insist on the development of competencies unrelated to the demands of the job.

Cultural components could also be specified in like manner. English as a second language for educated foreign born could be separated from ESL for native born functional illiterates which again would be different from teaching English in their native language to those who are not literate.

Practitioners are well aware that for some adults illiteracy is a consequence of limited mental ability. A sensitive testing procedure must be divised for screening and assigning adult students into programs designed for their particular educational problem. Adults who have not been educated and those who have been miseducated must be handled in different ways from those adults who are educationally handicapped or mentally retarded.

Geneticists have data which have implications for those involved in ABE. Geographic and cultural isolation such as found in rural areas, reservations, and regions such as Appalachia give rise to specific problems related to inbreeding and its consequences. Until educational programs are designed to attack causes as well as symptoms the results of such programs will continue to be trivial. ABE programs which are developed without consideration of the root causes of unemployment and without the development of adequate articulation with employment opportunities appear to be developed primarily for moral justification rather than for bringing about the changes necessary to enable the adult illiterates and their children to assume an independent and productive role as a contributing citizen.

Recognizing the fact that there are at least 24 million functionally illiterate adults by present definition, it is not difficult to see that an effective program to reduce illiteracy significantly must be institutionalized. Research is sorely needed which would indicate the most efficient institutional forms to provide for a permanent system of ABE. Can existing institutions be reshaped to accommodate the ABE enterprise? If such institutions are used, how can ABE be guarded from a marginal existence in terms of the primary function of these institutions? Should new institutions be created to carry out the ABE function? If so, how can these institutions be developed to articulate effectively with existing institutions?

The institutionalization of ABE as a permanent mechanism in our society requires that the financing of ABE must be studied. Economic analyses on the return of investments in ABE need to be specified in terms of specific educational outcomes. The investment of public monies must be dealt with in terms of accountability; therefore an evaluation model for the ABE enterprise acceptable to the practitioners in the field and capable of providing an adequate empirical base to guide decision-making must be developed. Such an evaluation model would accomplish two purposes: (1) ABE could be justified as an economic investment, and (2) the data collected would provide means for continually improving the effectiveness and efficiency of specific programs.

The staffing of a permanent ABE operation involves the problems of personnel recruitment, selection and training. Teacher training in ABE is presently in an early stage of development and it is still marginal to other teacher training activities. Within the field of teacher training there is poor communication among professionals involved in various approaches to literacy and ABE. A conceptualization of the entire personnel pre-service and inservice educational processes is needed with attention given to the specific demands of dealing with educationally disadvantaged adults. If training programs are to be devised to train individuals efficiently, then training institutions must know and be able to specify the kinds of competencies which are required for persons holding various kinds of positions in adult basic education programs.

Finally, research is needed in terms of more specific information on the adult learner and the adult teacher and the interaction which takes place in the learning situation. Old approaches need to be contrasted with new strategies; the impact of new technology and its use in complex interactional processes has yet to be studied systematically. It would seem imperative that researchers in adult basic education seek to work more closely with researchers in the more firmly established disciplines so that the effectiveness of all ABE research may be enhanced and the research capacity of these other disciplines becomes involved in solving adult basic education problems. Then the challenges of improving the dissemination system will become paramount.

The improvement of adult basic education programs is conceptually not an overwhelming task. It is precisely because of the diffuseness of purpose and the reluctance to specify the outcomes desired that program evaluation and improvement have remained largely on the intuitive level. When educators are ready to disclaim any assertions that adult basic education is a multipurpose panacea and when they become willing to espouse only those objectives which they can defend rationally and pursue systematically, then the entire adult basic education enterprise can be placed on a sound basis and the never-ending process of improvement can proceed rationally.

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